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TITLE: NETWORK FACSIMILE SYSTEM CONTROL  
METHOD

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ABSTRACT:

PROBLEM TO BE SOLVED: To surely distribute picture information to the user of a destination terminal by dividing picture information by the unit of a prescribed value when the data quantity of picture information is larger than the prescribed value and transmitting it as plural electronic mail.

SOLUTION: A mail server device SM executes the service of collecting and delivering an electronic mail to users using work station equipments WS1 to WSn

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connected to a local area network LAN and a network facsimile equipment FX. In order to transmit (distribute) facsimile picture information to the equipment WS1 to WSN from the equipment FX, the electronic mail is used. At the time of converting picture information received from another group 3 facsimile equipment through a public network to DCX information being a standard picture data form, when the data quantity exceeds 64 KB, e.g. DCX information is divided by 64 KB and distributed by respectively different electronic mails.

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[Claim(s)]

[Claim 1] Two or more workstation equipments equipped with the function to connect with a Local Area Network and to exchange an electronic mail through a Local Area Network, at least, While having the function of the data on a Local Area Network of an exchange, and the function of the facsimile data based on the facsimile transmission protocol performed through a public network of an exchange It has the address translation table which associated and memorized the network address corresponding to the sub-address information received with a facsimile transmission protocol, and its sub-address information. The drawing information received through the public network to the destination terminal of the network address memorized by the above-mentioned address translation table corresponding to the sub-address information to which it was notified from the partner terminal at the time of the drawing information reception Have the network facsimile apparatus distributed through a Local Area Network, and it sets to the control approach of a network facsimile system. While the above-mentioned network facsimile apparatus accumulates the drawing information received through the above-mentioned public network, when the amount of data of the drawing information is larger than a predetermined value While dividing drawing information in the predetermined value and forming two or more division PERT As opposed to the destination terminal of the network address memorized by the above-mentioned address translation table corresponding to the sub-address information notified from the partner terminal at the time of drawing information reception The control approach of the network facsimile system characterized by transmitting two or more electronic mails which make this information drawing information divided into the two or more above-mentioned division PERT, respectively.

[Claim 2] Two or more workstation equipments equipped with the function to connect with a Local Area Network and to exchange an electronic mail through a Local Area Network, at least, While having the function of the data on a Local Area Network of an

exchange, and the function of the facsimile data based on the facsimile transmission protocol performed through a public network of an exchange It has the address translation table which associated and memorized the network address corresponding to the sub-address information received with a facsimile transmission protocol, and its sub-address information. The drawing information received through the public network to the destination terminal of the network address memorized by the above-mentioned address translation table corresponding to the sub-address information to which it was notified from the partner terminal at the time of the drawing information reception Have the network facsimile apparatus distributed through a Local Area Network, and it sets to the control approach of a network facsimile system. While the above-mentioned network facsimile apparatus accumulates the drawing information received through the above-mentioned public network, when the amount of data of the drawing information is larger than a predetermined value While dividing drawing information in the Rhine break location of the drawing information which is less than the predetermined value, and was received and forming two or more division PERT As opposed to the destination terminal of the network address memorized by the above-mentioned address translation table corresponding to the sub-address information notified from the partner terminal at the time of drawing information reception The control approach of the network facsimile system characterized by transmitting two or more electronic mails which make this information drawing information divided into the two or more above-mentioned division PERT, respectively.

[Claim 3] Two or more workstation equipments equipped with the function to connect with a Local Area Network and to exchange an electronic mail through a Local Area Network, at least, While having the function of the data on a Local Area Network of an exchange, and the function of the facsimile data based on the facsimile transmission protocol performed through a public network of an exchange It has the address translation table which associated and memorized the network address corresponding to the sub-address information received with a facsimile transmission protocol, and its sub-address information. The drawing information received through the public network to the destination terminal of the network address memorized by the above-mentioned address translation table corresponding to the sub-address information to which it was notified from the partner terminal at the time of the drawing information reception Have the network facsimile apparatus distributed through a Local Area Network, and it sets to the control approach of a network facsimile system. While the above-mentioned network facsimile apparatus accumulates the drawing information received through the above-mentioned public network, when the amount of data of the drawing information is larger than a predetermined value While dividing drawing information per page of the drawing information which is less than the predetermined value, and was received and forming two or more division PERT As opposed to the destination terminal of the network address memorized by the above-mentioned address translation table corresponding to the sub-address information notified from the partner terminal at the time of drawing information reception The control approach of the network facsimile system characterized by transmitting two or more electronic mails which make this information drawing information divided into the two or more above-mentioned division PERT, respectively.

[Claim 4] The control approach of a network facsimile system according to claim 3 that it

is characterized by dividing the drawing information on the page further with the above-mentioned predetermined value when the amount of data for 1 page of said division drawing information is larger than said predetermined value.

[Claim 5] Said workstation equipment is the control approach of claim 1 characterized by connecting all that division PERT's drawing information in order of division, and creating receiving drawing information, or a network facsimile system according to claim 2, 3, or 4, when two or more electronic mails with which division PERT's drawing information is arranged at this information are received.

[Claim 6] Division PERT's drawing information said network facsimile apparatus in the "Subject" field of two or more electronic mails arranged at this information The information showing the division sequence is arranged. Said workstation equipment If two or more electronic mails with which division PERT's drawing information is arranged at this information are received The control approach of the network facsimile system according to claim 5 characterized by connecting all division PERT's drawing information in order of division, and creating receiving drawing information with reference to the information showing the division sequence arranged in the "Subject" field.

#### Detailed Description of the Invention]

##### [0001]

[Field of the Invention] Two or more workstation equipments equipped with the function for this invention to be connected to a Local Area Network, and to exchange an electronic mail through a Local Area Network, at least, While having the function of the data on a Local Area Network of an exchange, and the function of the facsimile data based on the facsimile transmission protocol performed through a public network of an exchange It has the address translation table which associated and memorized the network address corresponding to the sub-address information received with a facsimile transmission protocol, and its sub-address information. The drawing information received through the public network to the destination terminal of the network address memorized by the above-mentioned address translation table corresponding to the sub-address information to which it was notified from the partner terminal at the time of the drawing information reception It has the network facsimile apparatus distributed through a Local Area Network, and is related with the control approach of a network facsimile system.

##### [0002]

[Description of the Prior Art] Two or more workstation equipments equipped with the function to connect with a Local Area Network in recent years, and to exchange an electronic mail through a Local Area Network, at least, While having the function of the data on a Local Area Network of an exchange, and the function of the facsimile data based on the facsimile transmission protocol performed through a public network of an exchange It has the address translation table which associated and memorized the network address corresponding to the sub-address information received with a facsimile transmission protocol, and its sub-address information. The drawing information received through the public network to the destination terminal of the network address memorized by the above-mentioned address translation table corresponding to the sub-address information to which it was notified from the partner terminal at the time of the drawing

information reception It has the network facsimile apparatus distributed through a Local Area Network, and the network facsimile system is proposed.

[0003] Moreover, distribution of the drawing information from this network facsimile apparatus to a destination terminal is usually performed using the so-called electronic mail of the Internet type.

[0004] If such network facsimile apparatus is used, since the drawing information from the facsimile apparatus connected to the public network can be distributed to the workstation equipment linked to a Local Area Network, the availability of a facsimile network can be expanded sharply and it is very convenient.

[0005] Moreover, when the connected Local Area Network is connected to the Internet, a drawing information send action can be performed also to the terminal unit connected to other Local Area Networks through the Internet.

[0006]

[Problem(s) to be Solved by the Invention] However, in the network facsimile system using such network facsimile apparatus, it had produced following un-arranging.

[0007] That is, the sequential transfer of the electronic mail is carried out in two or more mail server equipments on the Internet, and it arrives to the mail server equipment with which the target destination terminal receives service.

[0008] Therefore, it may be placed between the transfer paths of an electronic mail by much mail server equipments, and the mail server equipment which has restricted the amount of data of this information on an electronic mail may also exist in them in it. As limiting value of the amount of data of such this information, 64KB (kilobyte;1K=1024B, 1B=8 bit) is applied in many cases, for example.

[0009] By the way, although this information on an electronic mail has fundamentally a limit that it must be the legible information on seven bit codes, since it is binary data, the drawing information which network facsimile apparatus tends to transmit in this case cannot be transmitted directly.

[0010] Then, he changes drawing information into the information on a MIME (after-mentioned) format, and is trying to usually arrange the drawing information on the MIME information to this information on an electronic mail.

[0011] On the other hand, it is comparatively large, the amount of data of the MIME information after conversion may exceed the limiting value of the amount of data of this information in mail server equipment depending on the case, and, in this case, the electronic mail for distribution of drawing information is discarded by the mail server equipment, consequently the amount of data of drawing information has a possibility of producing the situation where drawing information cannot be distributed to the user of the target destination terminal.

[0012] This invention is made in view of this actual condition, and aims at offering the control approach of the network facsimile system which enabled it to distribute drawing information to the user of the target destination terminal certainly.

[0013]

[Means for Solving the Problem] Two or more workstation equipments equipped with the function for this invention to be connected to a Local Area Network, and to exchange an electronic mail through a Local Area Network, at least, While having the function of the data on a Local Area Network of an exchange, and the function of the facsimile data based on the facsimile transmission protocol performed through a public network of an

exchange It has the address translation table which associated and memorized the network address corresponding to the sub-address information received with a facsimile transmission protocol, and its sub-address information. The drawing information received through the public network to the destination terminal of the network address memorized by the above-mentioned address translation table corresponding to the sub-address information to which it was notified from the partner terminal at the time of the drawing information reception Have the network facsimile apparatus distributed through a Local Area Network, and it sets to the control approach of a network facsimile system. While the above-mentioned network facsimile apparatus accumulates the drawing information received through the above-mentioned public network, when the amount of data of the drawing information is larger than a predetermined value While dividing drawing information in the predetermined value and forming two or more division PERT As opposed to the destination terminal of the network address memorized by the above-mentioned address translation table corresponding to the sub-address information notified from the partner terminal at the time of drawing information reception Two or more electronic mails which make this information drawing information divided into the two or more above-mentioned division PERT, respectively are transmitted.

[0014] Moreover, two or more workstation equipments equipped with the function to connect with a Local Area Network and to exchange an electronic mail through a Local Area Network, at least, While having the function of the data on a Local Area Network of an exchange, and the function of the facsimile data based on the facsimile transmission protocol performed through a public network of an exchange It has the address translation table which associated and memorized the network address corresponding to the sub-address information received with a facsimile transmission protocol, and its sub-address information. The drawing information received through the public network to the destination terminal of the network address memorized by the above-mentioned address translation table corresponding to the sub-address information to which it was notified from the partner terminal at the time of the drawing information reception Have the network facsimile apparatus distributed through a Local Area Network, and it sets to the control approach of a network facsimile system. While the above-mentioned network facsimile apparatus accumulates the drawing information received through the above-mentioned public network, when the amount of data of the drawing information is larger than a predetermined value While dividing drawing information in the Rhine break location of the drawing information which is less than the predetermined value, and was received and forming two or more division PERT As opposed to the destination terminal of the network address memorized by the above-mentioned address translation table corresponding to the sub-address information notified from the partner terminal at the time of drawing information reception Two or more electronic mails which make this information drawing information divided into the two or more above-mentioned division PERT, respectively are transmitted.

[0015] Moreover, two or more workstation equipments equipped with the function to connect with a Local Area Network and to exchange an electronic mail through a Local Area Network, at least, While having the function of the data on a Local Area Network of an exchange, and the function of the facsimile data based on the facsimile transmission protocol performed through a public network of an exchange It has the address translation table which associated and memorized the network address corresponding to

the sub-address information received with a facsimile transmission protocol, and its sub-address information. The drawing information received through the public network to the destination terminal of the network address memorized by the above-mentioned address translation table corresponding to the sub-address information to which it was notified from the partner terminal at the time of the drawing information reception Have the network facsimile apparatus distributed through a Local Area Network, and it sets to the control approach of a network facsimile system. While the above-mentioned network facsimile apparatus accumulates the drawing information received through the above-mentioned public network, when the amount of data of the drawing information is larger than a predetermined value While dividing drawing information per page of the drawing information which is less than the predetermined value, and was received and forming two or more division PERT As opposed to the destination terminal of the network address memorized by the above-mentioned address translation table corresponding to the sub-address information notified from the partner terminal at the time of drawing information reception Two or more electronic mails which make this information drawing information divided into the two or more above-mentioned division PERT, respectively are transmitted. Moreover, when the amount of data for 1 page of said division drawing information is larger than said predetermined value, it is good to divide the drawing information on the page further with the above-mentioned predetermined value.

[0016] Moreover, if two or more electronic mails with which division PERT's drawing information is arranged at this information are received, said workstation equipment will connect all that division PERT's drawing information in order of division, and will create receiving drawing information.

[0017] Moreover, said network facsimile apparatus Division PERT's drawing information in the "Subject" field of two or more electronic mails arranged at this information The information showing the division sequence is arranged. Said workstation equipment If two or more electronic mails with which division PERT's drawing information is arranged at this information are received, with reference to the information showing the division sequence arranged in the "Subject" field, all division PERT's drawing information will be connected in order of division, and receiving drawing information will be created.

[0018]

[Embodiment of the Invention] Hereafter, the gestalt of operation of this invention is explained to a detail, referring to an accompanying drawing.

[0019] Drawing 1 shows the network system concerning one example of this invention.

[0020] In this drawing, two or more workstation equipments WS1-WSn, mail server equipment SM, and the network facsimile apparatus FX are connected to Local Area Network LAN. Moreover, an exchange of data various between the host equipment which is connected to the Internet and connected to other Local Area Networks etc. through router equipment RT is possible for Local Area Network LAN.

[0021] Here, mail server equipment SM offers collection of an electronic mail (after-mentioned), and service of distribution to the user using the workstation equipments WS1-WSn connected to Local Area Network LAN, and the network facsimile apparatus FX.

[0022] Moreover, various programs, such as application software (transceiver processing

of an electronic mail etc.) which exchanges various data through Local Area Network LAN, and application software which processes the drawing information included in the electronic mail received from the network facsimile apparatus FX, are introduced into the workstation equipments WS1-WSn, and it is used by the specific user. Here, a specific user may be one person or two or more users.

[0023] Moreover, it connected with the transceiver function of the electronic mail in Local Area Network LAN, the function of the predetermined information communication link by the predetermined point-to-point transmission protocol between the workstation equipments WS1-WSn connected to Local Area Network LAN, and the public network (PSTN), and the network facsimile apparatus FX is equipped with various transmission (communication link) functions, such as a transmission function to perform the drawing information transmission by the group 3 facsimile transmission protocol, using this public network as a transmission line. Moreover, transmission (distribution) of the facsimile drawing information from the network facsimile apparatus FX to the workstation equipments WS1-WSn (user) is performed using an electronic mail.

[0024] Now, fundamentally in this example, an exchange of the data between [ which is connected to Local Area Network LAN ] terminals is performed by the combination (the so-called protocol suite) of the transmission protocol to the transport layer called the so-called TCP/IP and the communications protocol of the high order layer beyond it applying. For example, in an exchange of the data of an electronic mail, a communications protocol called SMTP (Simple Mail Transfer Protocol) is applied as a communications protocol of a high order layer.

[0025] Moreover, each terminal can apply the so-called POP (Post Office Protocol) etc. to mail server equipment SM as a protocol applied for the confirmation of receipt of the electronic mail addressed to a user, a Request to Send, etc.

[0026] Moreover, communications protocols, such as TCP/IP, and SMTP, POP, data format, DS of an electronic mail, etc. are prescribed by the RFC (Request For Comments) document published from the organization which is summarizing the technical contents about the Internet called IETF (Internet Engineering Task Force), respectively. For example, RFC793 and IP are prescribed by RFC793 and SMTP is prescribed [ the format of RFC821 and an electronic mail ] for TCP by RFC822, RFC1521, RFC1522 (MIME (Multi Purpose Mail Extension) format), etc., respectively.

[0027] The network facsimile apparatus FX minds a public network PSTN for the read manuscript image. And to other group 3 facsimile apparatus Or Local Area Network LAN (further) While transmitting to the user of the workstation equipments WS1-WSn through the Internet As opposed to the user corresponding to the sub-address then specified in the drawing information received from other group 3 facsimile apparatus through the public network PSTN It transmits using an electronic mail or has the transfer service function which transmits the drawing information received from the workstation WS of Local Area Network LAN to the group 3 facsimile apparatus of the public network PSTN corresponding to the specified abbreviation dial.

[0028] Moreover, about the electronic mail received to addressing in the end of a local, the drawing information arranged at this information is taken out, and it is made to carry out a record output.

[0029] Facsimile drawing information is binary data, since direct binary data cannot be included in an electronic mail, is in the condition changed into legible information (7-bit

character code) with the application of the predetermined conversion approach (for example, the Base64 coding approach), and is included here by the electronic mail. The format of this information on such an electronic mail is called MIME format.

[0030] Drawing 2 shows the example of a configuration of the network facsimile apparatus FX.

[0031] In this drawing the system control section 1 Control processing of each part of this network facsimile apparatus, It is what performs various control processings, such as facsimile transmission-control-procedures processing. And a system memory 2 When performing the control processing program which the system control section 1 performs, and a processing program, while memorizing various required data etc. Constituting the work area of the system control section 1, the parameter memory 3 is for memorizing various kinds of information peculiar to this network facsimile apparatus, and the clock circuit 4 outputs current time information.

[0032] A scanner 5 is for reading a manuscript image in predetermined resolution, and a plotter 6 is for carrying out the record output of the image in predetermined resolution, the actuation display 7 is for operating this network facsimile apparatus, and it consists of various kinds of actuation keys and various kinds of drops.

[0033] The coding decryption section 8 is for decrypting the drawing information by which coding compression is carried out to the original picture signal, while carrying out coding compression of the picture signal, and image storage equipment 9 is for memorizing much drawing information in the condition that coding compression was carried out.

[0034] The group 3 facsimile modem 10 is for realizing the modem function of group 3 facsimile, and is equipped with the slow-modem function (V. 21 modems) for exchanging a transmission protocol signal, and the fast modem function (V. 17 modems, a V.34 modem, V.29 modem, V.27ter modem, etc.) for mainly exchanging drawing information.

[0035] A network control unit 11 is for connecting this facsimile apparatus to a public network (PSTN), and is equipped with the automatic sending-and-receiving function.

[0036] The Local Area Network interface circuitry 12 is for connecting this Internet facsimile apparatus to Local Area Network LAN, and the Local Area Network transmission control section 13 is for performing communications control processings (electronic mail transceiver processing, point-to-point communications processing, etc.) of the protocol suite predetermined [ various ] for exchanging various data among other Data Terminal Equipments through Local Area Network LAN.

[0037] These system control sections 1, a system memory 2, the parameter memory 3, the clock circuit 4, a scanner 5, a plotter 6, the actuation display 7, the coding decryption section 8, image storage equipment 9, the group 3 facsimile modem 10, a network control unit 11, and the Local Area Network transmission control section 13 are connected to the internal bus 14, and the exchange of the data between each of these elements is performed mainly through this internal bus 14.

[0038] Moreover, the exchange of the data between a network control unit 11 and the group 3 facsimile modem 10 is performed directly.

[0039] Moreover, the address translation table which registered the mail address of the user of a distribution place is saved from the public network to the sub-address notified from a transmitting side at the network facsimile apparatus FX at the time of drawing

information reception, and the example is shown in drawing 3 .

[0040] About each sub-address, this address translation table makes a group ID for identifying each distribution place, a sub-address, and the mail address of the user of a distribution place, and memorizes them.

[0041] Moreover, he changes the drawing information received from other group 3 facsimile apparatus through the public network into the image data of the format of DCX which is the standard image data format in the facsimile application of Microsoft Corp., and is trying to transmit the image data after the conversion to the user of a distribution place in this example using an electronic mail.

[0042] As this DCX information is shown in drawing 4 , it becomes header information from image data 1 pages or more, and the image data of the format of PCX (standard image data format in the facsimile application of Microsoft Corp.) is applied as each image data.

[0043] At header information, the index information (positional information of initial data etc.) about each page contained in this DCX information is saved. Moreover, it consists of image data it is [ image data ] header information and a body although illustration has not carried out PCX information, either, and attribute value, such as resolution of image data and magnitude, is memorized by the header information.

Moreover, coding compression of the image data of PCX information may be carried out by the predetermined method.

[0044] Now, when the drawing information received from other group 3 facsimile apparatus through the public network is changed into DCX information and the amount of data is over the predetermined value, for example, 64KB, he divides DCX information by 64KB, and is trying to distribute each division part (henceforth "division PERT") with a different electronic mail in this example.

[0045] Moreover, the identification information of the drawing information which the electronic mail carries to the "Subject" field in the header information of the electronic mail which carries division PERT, and division PERT's division number are arranged, and it enables it to reconfigure the DCX information on original by the receiving side.

[0046] For example, as shown in drawing 5 (a), the DCX information which consists of 3-page image data is considered. In this case, the data length which united the image data for 3 pages with header information is 128KB, and if this is divided by 64KB, as shown in this drawing (b), two division PERT will be formed.

[0047] And while changing this division PERT's data into MIME information, respectively and setting them to this information on an electronic mail As shown in drawing 6 , in the "Subject" field in the header information of the electronic mail which carries the first division PERT The contents of "FAX Message 81035555-1234 (1/2)" are arranged. Moreover, in the "Subject" field in the header information of the electronic mail which carries the 2nd division PERT, the contents of "FAX Message 81035555-1234 (2/2)" are arranged.

[0048] Here, "FAX Message" expresses that the contents of this information on an electronic mail are facsimile messages (facsimile document; drawing information) among the information arranged in the "Subject" field in the header information of the electronic mail which carries the first division PERT, "81035555-1234" of a degree expresses the identifier of a facsimile message, and "" (1/2) of a degree expresses the 1st of division PERT divided into two. That is, the last "" (1/2) is a division number showing division

sequence.

[0049] Moreover, when not divided, the contents of the "Subject" field are set to "FAX Message 81035555-1234" etc., and a division number is not added.

[0050] On the other hand, with the workstation equipments WS1-WSn, if "FAXMessage" is arranged in the "Subject" field of the header information of the electronic mail when an electronic mail is received, it will be recognized as the contents of this information on the electronic mail being facsimile messages.

[0051] Moreover, if the identifier of the facsimile message is recognized and the division number is added by the following "81035555-1234" following it, it will be recognized as it being division PERT's electronic mail. In this case, it waits until it receives all the electronic mails to which the continuous division number is added with the same identifier. And with the same identifier, if all the electronic mails with which the continuous division number is added are received, they will be arranged in a division numerical order, the information of this will be changed into the original division PERT's data, they will be connected with a division numerical order, and the DCX information on original will be restored.

[0052] Thus, since DCX information is divided with the predetermined value (for example, 64KB) which is assumed when it comes to the limiting value of the data die length of this information on the electronic mail in mail server equipment and it transmits with two or more electronic mails when transmitting the big DCX information on the amount of data, such a facsimile document can also be appropriately distributed to a destination user.

[0053] When drawing 7 and drawing 8 carry out arrival-of-the-mail detection from a public network, they show an example of the processing which the network facsimile apparatus FX performs.

[0054] First, if arrival-of-the-mail detection is carried out (the result of decision 101 is YES), an arrival-of-the-mail response will be carried out (processing 102). The procedure before transmission of a predetermined group 3 facsimile transmission protocol is performed (processing 103). The transmission function then used is set up, the modem rate which performs a modem training procedure and is then used is determined (processing 104), a drawing information receiving procedure is performed, drawing information is received and the received drawing information is accumulated in image storage equipment 9 (processing 105).

[0055] After ending drawing information reception actuation, and performing a transmission defensive hand's predetermined order, (processing 106) and a circuit are restored (processing 107).

[0056] By subsequently, the case where investigate whether the sub-address signal SUB with which a distribution place is then expressed is received (decision 108), and the sub-address signal SUB is not received When the result of decision 108 is set to NO, from image storage equipment 9, receiving drawing information is read, it decrypts in the coding decryption section 8, the original image data is obtained (processing 109), the image data is transmitted to a plotter 6, and the record output of the receiving manuscript is carried out (processing 110). And the receiving drawing information which carried out record termination is eliminated from image storage equipment 9 (processing 111), and this actuation is ended.

[0057] Moreover, by the case where the sub-address signal SUB is received, when the

result of decision 108 is set to YES, the receiving drawing information saved to image storage equipment 9 is changed into the DCX information mentioned above (processing 112), and the amount of data of the DCX information is investigated (processing 113).

[0058] In the time of the data length of DCX information being over the predetermined value, when the result of decision 114 is set to YES With the convention data length, divide DCX information (processing 115) and the header information of each division PERT including the "Subject" field mentioned above is created (processing 116). Each division PERT's data are changed into MIME information, this information is created (processing 117), and the distribution electronic mail of each division PERT who consists of header information and this information is transmitted to mail server equipment SM (processing 118). Moreover, the mail address registered into the address translation table corresponding to the sub-address signal SUB is set as the destination address of header information.

[0059] Subsequently, the receiving drawing information and DCX information which carried out transmitting termination are eliminated from image storage equipment 9 (processing 119), and this actuation is ended.

[0060] Moreover, in the time of the data length of DCX information not being over the predetermined value, when the result of decision 114 is set to NO, header information including the "Subject" field mentioned above is created (processing 120), DCX information is changed into MIME information, this information is created (processing 121), and the distribution electronic mail which consists of header information and this information is transmitted to mail server equipment SM (processing 122). Moreover, the mail address registered into the address translation table corresponding to the sub-address signal SUB is set as the destination address of header information.

[0061] Subsequently, the receiving drawing information and DCX information which carried out transmitting termination are eliminated from image storage equipment 9 (processing 123), and this actuation is ended.

[0062] Drawing 9 shows an example of the processing performed when the workstation equipments WS1-W<sub>n</sub> receive an electronic mail. In addition, this processing is a part of so-called actuation of MUA (Mail User Agent; e-mail software).

[0063] If an electronic mail is received (the result of decision 201 is YES), an electronic mail will be received and saved (processing 202), the "Subject" field of header information will be investigated (processing 203), and it will investigate whether the received electronic mail is a facsimile message (decision 204).

[0064] The result of the decision 204 instead of a facsimile message performs processing at the time of predetermined electronic mail reception, when set to NO (processing 205), and the received electronic mail ends this actuation.

[0065] Moreover, by the case where the received electronic mail is a facsimile message, when the result of decision 204 is set to YES, it investigates whether it is the divided facsimile message (decision 206).

[0066] By the case where it is not the divided facsimile message, when the result of decision 206 is set to NO, this information on the received electronic mail is changed and saved at the original image data (DCX information) (processing 207), preservation hysteresis information as shown in drawing 10 is created and saved about that saved DCX information (processing 208), and this actuation is ended.

[0067] Moreover, in the case of the facsimile message divided, when the result of

decision 206 is set to YES, the electronic mail received by then is investigated and it investigates whether all division PERT is received (decision 209). When the result of decision 209 is set to NO by the case where no division PERT is received, this actuation is ended at that time.

[0068] moreover, by the case where all division PERT is received, when the result of decision 209 is set to YES Arrange each division PERT's electronic mail in a division numerical order (processing 210), and this information on each division PERT's electronic mail is changed into the image data by which origin was divided (processing 211). Each division PERT's image data is connected with a division numerical order, the DCX information on original is restored, that DCX information is saved (processing 212), preservation hysteresis information is created and saved about that saved DCX information (processing 213), and this actuation is ended.

[0069] In addition, preservation hysteresis information is for managing the hysteresis of preservation of a facsimile message, and consists of a file name of the message ID of the electronic mail which carried an e-mail number, the number of partitions, division PERT, or non-dividing PERT, transmitting agency information, and the saved DCX information.

[0070] Therefore, a user can specify and display the drawing information distributed from the network facsimile apparatus FX from a file name based on this preservation hysteresis information.

[0071] In addition, when a facsimile message is received in this way, a user is notified of that and it may be made to carry out a screen display of the saved DCX information to a user.

[0072] Thus, in this example, since DCX information is divided with the predetermined value (for example, 64KB) which is assumed when it comes to the limiting value of the data die length of this information on the electronic mail in mail server equipment and it transmits with two or more electronic mails when transmitting the big DCX information on the amount of data, such a facsimile document can also be appropriately distributed to a destination user.

[0073] Drawing 11 (a) and (b) show other examples of the division mode of DCX information.

[0074] In this case, when it divides in a page boundary, as the data length which united the image data for 3 pages with header information is 128KB, and it is 64KB about this, and it is shown in this drawing (b), header information and the image data (the 1st page and 2nd page) are first settled in one division PERT. Here, since the page [ 3rd ] image data is larger than 64KB, this page [ 3rd ] image data is divided into two by 64 moreKB. Therefore, three division PERT is formed in this case.

[0075] And as this division PERT's data are shown in the "Subject" field in the header information of the electronic mail carried, respectively at drawing 12 , the contents of "FAX Message 81035555-1234:F1", "FAX Message 81035555-1234:F2 (1/2)", and "FAX Message 81035555-1234:F2 (1/2)" are arranged.

[0076] "FAX Message" among the information arranged here in the "Subject" field in the header information of the electronic mail which carries the first division PERT It expresses that the contents of this information on an electronic mail are facsimile messages (facsimile document; drawing information). The following "81035555-1234" Expressing the identifier of a facsimile message, following ":F1 / 2" express that it is the 1st thing among the division PERT to whom 2 \*\*\*\*s of the same identifiers were carried

out.

[0077] Moreover, among the information arranged in the "Subject" field in the header information of the electronic mail which carries the 2nd division PERT, ":F2 / 2 (1/2)" is the 2nd things among the division PERT to whom 2 \*\*\*\*'s of the same identifiers were carried out, further, 2 \*\*\*\*'s of this 2nd division PERT are carried out, and he expresses that he is that 1st division PERT.

[0078] Furthermore, among the information arranged in the "Subject" field in the header information of the electronic mail which carries the 3rd division PERT, ":F2 / 2 (2/2)" is the 2nd things among the division PERT to whom 2 \*\*\*\*'s of the same identifiers were carried out, further, 2 \*\*\*\*'s of this 2nd division PERT are carried out, and he expresses that he is that 2nd division PERT.

[0079] Therefore, ":F1 / 2", ":F2/2 (1/2)", and ":F2/2 (2/2)" become a division number showing division sequence in this case among the information arranged in the "Subject" field.

[0080] In this case, when drawing 13 , drawing 14 , and drawing 15 carry out arrival-of-the-mail detection from a public network, they show an example of the processing which the network facsimile apparatus FX performs.

[0081] First, if arrival-of-the-mail detection is carried out (the result of decision 301 is YES), an arrival-of-the-mail response will be carried out (processing 302). The procedure before transmission of a predetermined group 3 facsimile transmission protocol is performed (processing 303). The transmission function then used is set up, the modem rate which performs a modem training procedure and is then used is determined (processing 304), a drawing information receiving procedure is performed, drawing information is received and the received drawing information is accumulated in image storage equipment 9 (processing 305).

[0082] After ending drawing information reception actuation, and performing a transmission defensive hand's predetermined order, (processing 306) and a circuit are restored (processing 307).

[0083] By subsequently, the case where investigate whether the sub-address signal SUB with which a distribution place is then expressed is received (decision 308), and the sub-address signal SUB is not received When the result of decision 308 is set to NO, from image storage equipment 9, receiving drawing information is read, it decrypts in the coding decryption section 8, the original image data is obtained (processing 309), the image data is transmitted to a plotter 6, and the record output of the receiving manuscript is carried out (processing 310). And the receiving drawing information which carried out record termination is eliminated from image storage equipment 9 (processing 311), and this actuation is ended.

[0084] Moreover, by the case where the sub-address signal SUB is received, when the result of decision 308 is set to YES, the receiving drawing information saved to image storage equipment 9 is changed into the DCX information mentioned above (processing 312), and it investigates whether the image data the DCX information of whose is two or more pages is included (decision 313).

[0085] It investigates whether the thing exceeding a convention data length is in the page into which it is a convention data length, and DCX information was divided and (processing 314) divided per page by the case where the image data whose DCX information is two or more pages is included when the result of decision 313 was set to

YES (decision 315). By the case where the thing exceeding a convention data length is in the divided page, when the result of decision 315 is set to YES, the DCX information on the page is divided further.

[0086] Subsequently, the header information of each division PERT who includes the "Subject" field mentioned above about each division PERT is created (processing 317), each division PERT's data are changed into MIME information, this information is created (processing 318), and the distribution electronic mail of each division PERT who consists of header information and this information is transmitted to mail server equipment SM (processing 319). Moreover, the mail address registered into the address translation table corresponding to the sub-address signal SUB is set as the destination address of header information.

[0087] Subsequently, the receiving drawing information and DCX information which carried out transmitting termination are eliminated from image storage equipment 9 (processing 320), and this actuation is ended.

[0088] Moreover, by the case where the image data whose DCX information is two or more pages is not included, when the result of decision 313 is set to NO, it investigates whether the amount of data of the DCX information exceeds a convention data length (decision 321).

[0089] In the time of the data length of DCX information being over the predetermined value, when the result of decision 321 is set to YES With the convention data length, divide DCX information (processing 322) and the header information of each division PERT including the "Subject" field mentioned above is created (processing 323). Each division PERT's data are changed into MIME information, this information is created (processing 324), and the distribution electronic mail of each division PERT who consists of header information and this information is transmitted to mail server equipment SM (processing 325). Moreover, the mail address registered into the address translation table corresponding to the sub-address signal SUB is set as the destination address of header information.

[0090] Subsequently, the receiving drawing information and DCX information which carried out transmitting termination are eliminated from image storage equipment 9 (processing 326), and this actuation is ended.

[0091] Moreover, in the time of the data length of DCX information not being over the predetermined value, when the result of decision 321 is set to NO, header information including the "Subject" field mentioned above is created (processing 327), DCX information is changed into MIME information, this information is created (processing 328), and the distribution electronic mail which consists of header information and this information is transmitted to mail server equipment SM (processing 329). Moreover, the mail address registered into the address translation table corresponding to the sub-address signal SUB is set as the destination address of header information.

[0092] Subsequently, the receiving drawing information and DCX information which carried out transmitting termination are eliminated from image storage equipment 9 (processing 330), and this actuation is ended.

[0093] In addition, since the processing performed in this case when the workstation equipments WS1-WSn receive an electronic mail becomes the same thing as drawing 9, that explanation is omitted.

[0094] Thus, in this example, since it is the predetermined value (for example, 64KB)

which is assumed when it comes to the limiting value of the data die length of this information on the electronic mail in mail server equipment, and DCX information is divided per page and it transmits with two or more electronic mails when transmitting the big DCX information on the amount of data, such a facsimile document can also be appropriately distributed to a destination user.

[0095] Drawing 16 (a) and (b) show other examples to the pan of the division mode of DCX information.

[0096] In this case, the data length which united the image data for 3 pages with header information is 128KB, and it is 64KB about this, and if it divides in a page boundary, as shown in this drawing (b), first, header information and the image data (the 1st page and 2nd page) will be settled in one division PERT, and the page [ 3rd ] image data will become another division PERT's thing.

[0097] Then, in this case, in order to enable it to display each division PERT independently, the header information of the DCX information only showing the image data contained in that division PERT is created and added to each division PERT.

[0098] However, the page [ 3rd ] image data in this case divides this page [ 3rd ] image data including the header information newly added that becomes larger than 64KB into two by 64 moreKB. Therefore, three division PERT is formed in this case.

[0099] moreover, each data of the division PERT in this case -- the contents of the "Subject" field in the header information of a \*\*\*\* electronic mail can apply the thing of the same contents as drawing 12 .

[0100] In this case, when drawing 17 , drawing 18 , and drawing 19 carry out arrival-of-the-mail detection from a public network, they show an example of the processing which the network facsimile apparatus FX performs.

[0101] First, if arrival-of-the-mail detection is carried out (the result of decision 401 is YES), an arrival-of-the-mail response will be carried out (processing 402). The procedure before transmission of a predetermined group 3 facsimile transmission protocol is performed (processing 403). The transmission function then used is set up, the modem rate which performs a modem training procedure and is then used is determined (processing 404), a drawing information receiving procedure is performed, drawing information is received and the received drawing information is accumulated in image storage equipment 9 (processing 405).

[0102] After ending drawing information reception actuation, and performing a transmission defensive hand's predetermined order, (processing 4306) and a circuit are restored (processing 407).

[0103] By subsequently, the case where investigate whether the sub-address signal SUB with which a distribution place is then expressed is received (decision 408), and the sub-address signal SUB is not received When the result of decision 408 is set to NO, from image storage equipment 9, receiving drawing information is read, it decrypts in the coding decryption section 8, the original image data is obtained (processing 409), the image data is transmitted to a plotter 6, and the record output of the receiving manuscript is carried out (processing 410). And the receiving drawing information which carried out record termination is eliminated from image storage equipment 9 (processing 411), and this actuation is ended.

[0104] Moreover, by the case where the sub-address signal SUB is received, when the result of decision 408 is set to YES, the receiving drawing information saved to image

storage equipment 9 is changed into the DCX information mentioned above (processing 412), and it investigates whether the image data the DCX information of whose is two or more pages is included (decision 413).

[0105] It investigates whether the thing exceeding a convention data length is in the page into which it is a convention data length, and DCX information was divided and (processing 414) divided per page by the case where the image data whose DCX information is two or more pages is included when the result of decision 413 was set to YES (decision 415). By the case where the thing exceeding a convention data length is in the divided page, when the result of decision 415 is set to YES, the DCX information on the page is divided further.

[0106] Subsequently, the header information of each division PERT including the "Subject" field which newly created, added and (processing 417) mentioned the header information of DCX information above about each division PERT creates (processing 418), each division PERT's data are changed into MIME information, this information creates (processing 419), and the distribution electronic mail of each division PERT who consists of header information and this information transmits to mail server equipment SM (processing 420). Moreover, the mail address registered into the address translation table corresponding to the sub-address signal SUB is set as the destination address of header information.

[0107] Subsequently, the receiving drawing information and DCX information which carried out transmitting termination are eliminated from image storage equipment 9 (processing 421), and this actuation is ended.

[0108] Moreover, by the case where the image data whose DCX information is two or more pages is not included, when the result of decision 413 is set to NO, it investigates whether the amount of data of the DCX information exceeds a convention data length (decision 422).

[0109] In the time of the data length of DCX information being over the predetermined value, when the result of decision 422 is set to YES With the convention data length, divide DCX information (processing 423) and the header information of each division PERT including the "Subject" field mentioned above is created (processing 424). Each division PERT's data are changed into MIME information, this information is created (processing 425), and the distribution electronic mail of each division PERT who consists of header information and this information is transmitted to mail server equipment SM (processing 426). Moreover, the mail address registered into the address translation table corresponding to the sub-address signal SUB is set as the destination address of header information.

[0110] Subsequently, the receiving drawing information and DCX information which carried out transmitting termination are eliminated from image storage equipment 9 (processing 427), and this actuation is ended.

[0111] Moreover, in the time of the data length of DCX information not being over the predetermined value, when the result of decision 422 is set to NO, header information including the "Subject" field mentioned above is created (processing 428), DCX information is changed into MIME information, this information is created (processing 429), and the distribution electronic mail which consists of header information and this information is transmitted to mail server equipment SM (processing 430). Moreover, the mail address registered into the address translation table corresponding to the sub-address

signal SUB is set as the destination address of header information.

[0112] Subsequently, the receiving drawing information and DCX information which carried out transmitting termination are eliminated from image storage equipment 9 (processing 431), and this actuation is ended.

[0113] In addition, since the processing performed in this case when the workstation equipments WS1-WSn receive an electronic mail becomes the same thing as drawing 9, that explanation is omitted.

[0114] thus, when transmitting the big DCX information on the amount of data in this example With the predetermined value (for example, 64KB) which is assumed when it comes to the limiting value of the data die length of this information on the electronic mail in mail server equipment And since new header information is added and it transmits with two or more electronic mails about each division PERT while dividing DCX information per page, such a facsimile document can also be appropriately distributed to a destination user.

[0115] In addition, in the example mentioned above, although the case where DCX information was applied was explained as image data which transmits to workstation equipment, when applying the image data of the other data format, this invention can be applied similarly. When the format of image data that the header information showing the attribute of the image data etc. is added to the head of each page is applied so that it may be shown in that case (a), for example, drawing 20, while being a convention data length as shown in this drawing (b) and dividing per page, when the data length for 1 page exceeds default value, it can be further made a division mode which divides the page.

[0116] Moreover, the convention data length applied in order to divide image data is not restricted to 64KB of the example mentioned above.

[0117]

[Effect of the Invention] Since according to this invention DCX information is divided with the predetermined value (for example, 64KB) which is assumed when it comes to the limiting value of the data die length of this information on the electronic mail in mail server equipment and it transmits with two or more electronic mails when transmitting the big DCX information on the amount of data as explained above, the effectiveness that such a facsimile document can also be appropriately distributed to a destination user is acquired.

[0118] Moreover, since it is the predetermined value (for example, 64KB) which is assumed when it comes to the limiting value of the data die length of this information on the electronic mail in mail server equipment, and DCX information is divided per page and it transmits with two or more electronic mails when transmitting the big DCX information on the amount of data, such a facsimile document and the effectiveness that it can distribute to a destination user appropriately are acquired.

[0119] moreover, when transmitting the big DCX information on the amount of data With the predetermined value (for example, 64KB) which is assumed when it comes to the limiting value of the data die length of this information on the electronic mail in mail server equipment And since new header information is added and it transmits with two or more electronic mails about each division PERT while dividing DCX information per page, such a facsimile document and the effectiveness that it can distribute to a destination user appropriately are acquired.

[Field of the Invention] Two or more workstation equipments equipped with the function for this invention to be connected to a Local Area Network, and to exchange an electronic mail through a Local Area Network, at least, While having the function of the data on a Local Area Network of an exchange, and the function of the facsimile data based on the facsimile transmission protocol performed through a public network of an exchange It has the address translation table which associated and memorized the network address corresponding to the sub-address information received with a facsimile transmission protocol, and its sub-address information. The drawing information received through the public network to the destination terminal of the network address memorized by the above-mentioned address translation table corresponding to the sub-address information to which it was notified from the partner terminal at the time of the drawing information reception It has the network facsimile apparatus distributed through a Local Area Network, and is related with the control approach of a network facsimile system.

[Description of the Prior Art] Two or more workstation equipments equipped with the function to connect with a Local Area Network in recent years, and to exchange an electronic mail through a Local Area Network, at least, While having the function of the data on a Local Area Network of an exchange, and the function of the facsimile data based on the facsimile transmission protocol performed through a public network of an exchange It has the address translation table which associated and memorized the network address corresponding to the sub-address information received with a facsimile transmission protocol, and its sub-address information. The drawing information received through the public network to the destination terminal of the network address memorized by the above-mentioned address translation table corresponding to the sub-address information to which it was notified from the partner terminal at the time of the drawing information reception It has the network facsimile apparatus distributed through a Local Area Network, and the network facsimile system is proposed.

[0003] Moreover, distribution of the drawing information from this network facsimile apparatus to a destination terminal is usually performed using the so-called electronic mail of the Internet type.

[0004] If such network facsimile apparatus is used, since the drawing information from the facsimile apparatus connected to the public network can be distributed to the workstation equipment linked to a Local Area Network, the availability of a facsimile network can be expanded sharply and it is very convenient.

[0005] Moreover, when the connected Local Area Network is connected to the Internet, a drawing information send action can be performed also to the terminal unit connected to other Local Area Networks through the Internet.

[Effect of the Invention] Since according to this invention DCX information is divided with the predetermined value (for example, 64KB) which is assumed when it comes to the limiting value of the data die length of this information on the electronic mail in mail server equipment and it transmits with two or more electronic mails when transmitting the big DCX information on the amount of data as explained above, the effectiveness that

such a facsimile document can also be appropriately distributed to a destination user is acquired.

[0118] Moreover, since it is the predetermined value (for example, 64KB) which is assumed when it comes to the limiting value of the data die length of this information on the electronic mail in mail server equipment, and DCX information is divided per page and it transmits with two or more electronic mails when transmitting the big DCX information on the amount of data, such a facsimile document and the effectiveness that it can distribute to a destination user appropriately are acquired.

[0119] moreover, when transmitting the big DCX information on the amount of data With the predetermined value (for example, 64KB) which is assumed when it comes to the limiting value of the data die length of this information on the electronic mail in mail server equipment And since new header information is added and it transmits with two or more electronic mails about each division PERT while dividing DCX information per page, such a facsimile document and the effectiveness that it can distribute to a destination user appropriately are acquired.

[Problem(s) to be Solved by the Invention] However, in the network facsimile system using such network facsimile apparatus, it had produced following un-arranging.

[0007] That is, the sequential transfer of the electronic mail is carried out in two or more mail server equipments on the Internet, and it arrives to the mail server equipment with which the target destination terminal receives service.

[0008] Therefore, it may be placed between the transfer paths of an electronic mail by much mail server equipments, and the mail server equipment which has restricted the amount of data of this information on an electronic mail may also exist in them in it. As limiting value of the amount of data of such this information, 64KB (kilobyte;1K=1024B, 1B=8 bit) is applied in many cases, for example.

[0009] By the way, although this information on an electronic mail has fundamentally a limit that it must be the legible information on seven bit codes, since it is binary data, the drawing information which network facsimile apparatus tends to transmit in this case cannot be transmitted directly.

[0010] Then, he changes drawing information into the information on a MIME (after-mentioned) format, and is trying to usually arrange the drawing information on the MIME information to this information on an electronic mail.

[0011] On the other hand, it is comparatively large, the amount of data of the MIME information after conversion may exceed the limiting value of the amount of data of this information in mail server equipment depending on the case, and, in this case, the electronic mail for distribution of drawing information is discarded by the mail server equipment, consequently the amount of data of drawing information has a possibility of producing the situation where drawing information cannot be distributed to the user of the target destination terminal.

[0012] This invention is made in view of this actual condition, and aims at offering the control approach of the network facsimile system which enabled it to distribute drawing information to the user of the target destination terminal certainly.

[Means for Solving the Problem] Two or more workstation equipments equipped with the function for this invention to be connected to a Local Area Network, and to exchange an electronic mail through a Local Area Network, at least, While having the function of the data on a Local Area Network of an exchange, and the function of the facsimile data based on the facsimile transmission protocol performed through a public network of an exchange It has the address translation table which associated and memorized the network address corresponding to the sub-address information received with a facsimile transmission protocol, and its sub-address information. The drawing information received through the public network to the destination terminal of the network address memorized by the above-mentioned address translation table corresponding to the sub-address information to which it was notified from the partner terminal at the time of the drawing information reception Have the network facsimile apparatus distributed through a Local Area Network, and it sets to the control approach of a network facsimile system. While the above-mentioned network facsimile apparatus accumulates the drawing information received through the above-mentioned public network, when the amount of data of the drawing information is larger than a predetermined value While dividing drawing information in the predetermined value and forming two or more division PERT As opposed to the destination terminal of the network address memorized by the above-mentioned address translation table corresponding to the sub-address information notified from the partner terminal at the time of drawing information reception Two or more electronic mails which make this information drawing information divided into the two or more above-mentioned division PERT, respectively are transmitted.

[0014] Moreover, two or more workstation equipments equipped with the function to connect with a Local Area Network and to exchange an electronic mail through a Local Area Network, at least, While having the function of the data on a Local Area Network of an exchange, and the function of the facsimile data based on the facsimile transmission protocol performed through a public network of an exchange It has the address translation table which associated and memorized the network address corresponding to the sub-address information received with a facsimile transmission protocol, and its sub-address information. The drawing information received through the public network to the destination terminal of the network address memorized by the above-mentioned address translation table corresponding to the sub-address information to which it was notified from the partner terminal at the time of the drawing information reception Have the network facsimile apparatus distributed through a Local Area Network, and it sets to the control approach of a network facsimile system. While the above-mentioned network facsimile apparatus accumulates the drawing information received through the above-mentioned public network, when the amount of data of the drawing information is larger than a predetermined value While dividing drawing information in the Rhine break location of the drawing information which is less than the predetermined value, and was received and forming two or more division PERT As opposed to the destination terminal of the network address memorized by the above-mentioned address translation table corresponding to the sub-address information notified from the partner terminal at the time of drawing information reception Two or more electronic mails which make this information drawing information divided into the two or more above-mentioned division PERT, respectively are transmitted.

[0015] Moreover, two or more workstation equipments equipped with the function to connect with a Local Area Network and to exchange an electronic mail through a Local Area Network, at least, While having the function of the data on a Local Area Network of an exchange, and the function of the facsimile data based on the facsimile transmission protocol performed through a public network of an exchange It has the address translation table which associated and memorized the network address corresponding to the sub-address information received with a facsimile transmission protocol, and its sub-address information. The drawing information received through the public network to the destination terminal of the network address memorized by the above-mentioned address translation table corresponding to the sub-address information to which it was notified from the partner terminal at the time of the drawing information reception Have the network facsimile apparatus distributed through a Local Area Network, and it sets to the control approach of a network facsimile system. While the above-mentioned network facsimile apparatus accumulates the drawing information received through the above-mentioned public network, when the amount of data of the drawing information is larger than a predetermined value While dividing drawing information per page of the drawing information which is less than the predetermined value, and was received and forming two or more division PERT As opposed to the destination terminal of the network address memorized by the above-mentioned address translation table corresponding to the sub-address information notified from the partner terminal at the time of drawing information reception Two or more electronic mails which make this information drawing information divided into the two or more above-mentioned division PERT, respectively are transmitted. Moreover, when the amount of data for 1 page of said division drawing information is larger than said predetermined value, it is good to divide the drawing information on the page further with the above-mentioned predetermined value.

[0016] Moreover, if two or more electronic mails with which division PERT's drawing information is arranged at this information are received, said workstation equipment will connect all that division PERT's drawing information in order of division, and will create receiving drawing information.

[0017] Moreover, said network facsimile apparatus Division PERT's drawing information in the "Subject" field of two or more electronic mails arranged at this information The information showing the division sequence is arranged. Said workstation equipment If two or more electronic mails with which division PERT's drawing information is arranged at this information are received, with reference to the information showing the division sequence arranged in the "Subject" field, all division PERT's drawing information will be connected in order of division, and receiving drawing information will be created.

[0018]

[Embodiment of the Invention] Hereafter, the gestalt of operation of this invention is explained to a detail, referring to an accompanying drawing.

[0019] Drawing 1 shows the network system concerning one example of this invention.

[0020] In this drawing, two or more workstation equipments WS1-W<sub>n</sub>, mail server equipment SM, and the network facsimile apparatus FX are connected to Local Area Network LAN. Moreover, an exchange of data various between the host equipment which is connected to the Internet and connected to other Local Area Networks etc.

through router equipment RT is possible for Local Area Network LAN.

[0021] Here, mail server equipment SM offers collection of an electronic mail (after-mentioned), and service of distribution to the user using the workstation equipments WS1-Wsn connected to Local Area Network LAN, and the network facsimile apparatus FX.

[0022] Moreover, various programs, such as application software (transceiver processing of an electronic mail etc.) which exchanges various data through Local Area Network LAN, and application software which processes the drawing information included in the electronic mail received from the network facsimile apparatus FX, are introduced into the workstation equipments WS1-Wsn, and it is used by the specific user. Here, a specific user may be one person or two or more users.

[0023] Moreover, it connected with the transceiver function of the electronic mail in Local Area Network LAN, the function of the predetermined information communication link by the predetermined point-to-point transmission protocol between the workstation equipments WS1-Wsn connected to Local Area Network LAN, and the public network (PSTN), and the network facsimile apparatus FX is equipped with various transmission (communication link) functions, such as a transmission function to perform the drawing information transmission by the group 3 facsimile transmission protocol, using this public network as a transmission line. Moreover, transmission (distribution) of the facsimile drawing information from the network facsimile apparatus FX to the workstation equipments WS1-Wsn (user) is performed using an electronic mail.

[0024] Now, fundamentally in this example, an exchange of the data between [ which is connected to Local Area Network LAN ] terminals is performed by the combination (the so-called protocol suite) of the transmission protocol to the transport layer called the so-called TCP/IP and the communications protocol of the high order layer beyond it applying. For example, in an exchange of the data of an electronic mail, a communications protocol called SMTP (Simple Mail Transfer Protocol) is applied as a communications protocol of a high order layer.

[0025] Moreover, each terminal can apply the so-called POP (Post Office Protocol) etc. to mail server equipment SM as a protocol applied for the confirmation of receipt of the electronic mail addressed to a user, a Request to Send, etc.

[0026] Moreover, communications protocols, such as TCP/IP, and SMTP, POP, data format, DS of an electronic mail, etc. are prescribed by the RFC (Request For Comments) document published from the organization which is summarizing the technical contents about the Internet called IETF (Internet Engineering Task Force), respectively. For example, RFC793 and IP are prescribed by RFC793 and SMTP is prescribed [ the format of RFC821 and an electronic mail ] for TCP by RFC822, RFC1521, RFC1522 (MIME (Multi Purpose Mail Extension) format), etc., respectively.

[0027] The network facsimile apparatus FX minds a public network PSTN for the read manuscript image. And to other group 3 facsimile apparatus Or Local Area Network LAN (further) While transmitting to the user of the workstation equipments WS1-Wsn through the Internet As opposed to the user corresponding to the sub-address then specified in the drawing information received from other group 3 facsimile apparatus through the public network PSTN It transmits using an electronic mail or has the transfer service function which transmits the drawing information received from the workstation WS of Local Area Network LAN to the group 3 facsimile apparatus of the public

network PSTN corresponding to the specified abbreviation dial.

[0028] Moreover, about the electronic mail received to addressing in the end of a local, the drawing information arranged at this information is taken out, and it is made to carry out a record output.

[0029] Facsimile drawing information is binary data, since direct binary data cannot be included in an electronic mail, is in the condition changed into legible information (7-bit character code) with the application of the predetermined conversion approach (for example, the Base64 coding approach), and is included here by the electronic mail. The format of this information on such an electronic mail is called MIME format.

[0030] Drawing 2 shows the example of a configuration of the network facsimile apparatus FX.

[0031] In this drawing the system control section 1 Control processing of each part of this network facsimile apparatus, It is what performs various control processings, such as facsimile transmission-control-procedures processing. And a system memory 2 When performing the control processing program which the system control section 1 performs, and a processing program, while memorizing various required data etc. Constituting the work area of the system control section 1, the parameter memory 3 is for memorizing various kinds of information peculiar to this network facsimile apparatus, and the clock circuit 4 outputs current time information.

[0032] A scanner 5 is for reading a manuscript image in predetermined resolution, and a plotter 6 is for carrying out the record output of the image in predetermined resolution, the actuation display 7 is for operating this network facsimile apparatus, and it consists of various kinds of actuation keys and various kinds of drops.

[0033] The coding decryption section 8 is for decrypting the drawing information by which coding compression is carried out to the original picture signal, while carrying out coding compression of the picture signal, and image storage equipment 9 is for memorizing much drawing information in the condition that coding compression was carried out.

[0034] The group 3 facsimile modem 10 is for realizing the modem function of group 3 facsimile, and is equipped with the slow-modem function (V. 21 modems) for exchanging a transmission protocol signal, and the fast modem function (V. 17 modems, a V.34 modem, V.29 modem, V.27ter modem, etc.) for mainly exchanging drawing information.

[0035] A network control unit 11 is for connecting this facsimile apparatus to a public network (PSTN), and is equipped with the automatic sending-and-receiving function.

[0036] The Local Area Network interface circuitry 12 is for connecting this Internet facsimile apparatus to Local Area Network LAN, and the Local Area Network transmission control section 13 is for performing communications control processings (electronic mail transceiver processing, point-to-point communications processing, etc.) of the protocol suite predetermined [ various ] for exchanging various data among other Data Terminal Equipments through Local Area Network LAN.

[0037] These system control sections 1, a system memory 2, the parameter memory 3, the clock circuit 4, a scanner 5, a plotter 6, the actuation display 7, the coding decryption section 8, image storage equipment 9, the group 3 facsimile modem 10, a network control unit 11, and the Local Area Network transmission control section 13 are connected to the internal bus 14, and the exchange of the data between each of these elements is

performed mainly through this internal bus 14.

[0038] Moreover, the exchange of the data between a network control unit 11 and the group 3 facsimile modem 10 is performed directly.

[0039] Moreover, the address translation table which registered the mail address of the user of a distribution place is saved from the public network to the sub-address notified from a transmitting side at the network facsimile apparatus FX at the time of drawing information reception, and the example is shown in drawing 3.

[0040] About each sub-address, this address translation table makes a group ID for identifying each distribution place, a sub-address, and the mail address of the user of a distribution place, and memorizes them.

[0041] Moreover, he changes the drawing information received from other group 3 facsimile apparatus through the public network into the image data of the format of DCX which is the standard image data format in the facsimile application of Microsoft Corp., and is trying to transmit the image data after the conversion to the user of a distribution place in this example using an electronic mail.

[0042] As this DCX information is shown in drawing 4, it becomes header information from image data 1 pages or more, and the image data of the format of PCX (standard image data format in the facsimile application of Microsoft Corp.) is applied as each image data.

[0043] At header information, the index information (positional information of initial data etc.) about each page contained in this DCX information is saved. Moreover, it consists of image data it is [ image data ] header information and a body although illustration has not carried out PCX information, either, and attribute value, such as resolution of image data and magnitude, is memorized by the header information. Moreover, coding compression of the image data of PCX information may be carried out by the predetermined method.

[0044] Now, when the drawing information received from other group 3 facsimile apparatus through the public network is changed into DCX information and the amount of data is over the predetermined value, for example, 64KB, he divides DCX information by 64KB, and is trying to distribute each division part (henceforth "division PERT") with a different electronic mail in this example.

[0045] Moreover, the identification information of the drawing information which the electronic mail carries to the "Subject" field in the header information of the electronic mail which carries division PERT, and division PERT's division number are arranged, and it enables it to reconfigure the DCX information on original by the receiving side.

[0046] For example, as shown in drawing 5 (a), the DCX information which consists of 3-page image data is considered. In this case, the data length which united the image data for 3 pages with header information is 128KB, and if this is divided by 64KB, as shown in this drawing (b), two division PERT will be formed.

[0047] And while changing this division PERT's data into MIME information, respectively and setting them to this information on an electronic mail As shown in drawing 6, in the "Subject" field in the header information of the electronic mail which carries the first division PERT The contents of "FAX Message 81035555-1234 (1/2)" are arranged. Moreover, in the "Subject" field in the header information of the electronic mail which carries the 2nd division PERT, the contents of "FAX Message 81035555-1234 (2/2)" are arranged.

[0048] Here, "FAX Message" expresses that the contents of this information on an electronic mail are facsimile messages (facsimile document; drawing information) among the information arranged in the "Subject" field in the header information of the electronic mail which carries the first division PERT, "81035555-1234" of a degree expresses the identifier of a facsimile message, and "" (1/2) of a degree expresses the 1st of division PERT divided into two. That is, the last "" (1/2) is a division number showing division sequence.

[0049] Moreover, when not divided, the contents of the "Subject" field are set to "FAX Message 81035555-1234" etc., and a division number is not added.

[0050] On the other hand, with the workstation equipments WS1-WSn, if "FAXMessage" is arranged in the "Subject" field of the header information of the electronic mail when an electronic mail is received, it will be recognized as the contents of this information on the electronic mail being facsimile messages.

[0051] Moreover, if the identifier of the facsimile message is recognized and the division number is added by the following "81035555-1234" following it, it will be recognized as it being division PERT's electronic mail. In this case, it waits until it receives all the electronic mails to which the continuous division number is added with the same identifier. And with the same identifier, if all the electronic mails with which the continuous division number is added are received, they will be arranged in a division numerical order, the information of this will be changed into the original division PERT's data, they will be connected with a division numerical order, and the DCX information on original will be restored.

[0052] Thus, since DCX information is divided with the predetermined value (for example, 64KB) which is assumed when it comes to the limiting value of the data die length of this information on the electronic mail in mail server equipment and it transmits with two or more electronic mails when transmitting the big DCX information on the amount of data, such a facsimile document can also be appropriately distributed to a destination user.

[0053] When drawing 7 and drawing 8 carry out arrival-of-the-mail detection from a public network, they show an example of the processing which the network facsimile apparatus FX performs.

[0054] First, if arrival-of-the-mail detection is carried out (the result of decision 101 is YES), an arrival-of-the-mail response will be carried out (processing 102). The procedure before transmission of a predetermined group 3 facsimile transmission protocol is performed (processing 103). The transmission function then used is set up, the modem rate which performs a modem training procedure and is then used is determined (processing 104), a drawing information receiving procedure is performed, drawing information is received and the received drawing information is accumulated in image storage equipment 9 (processing 105).

[0055] After ending drawing information reception actuation, and performing a transmission defensive hand's predetermined order, (processing 106) and a circuit are restored (processing 107).

[0056] By subsequently, the case where investigate whether the sub-address signal SUB with which a distribution place is then expressed is received (decision 108), and the sub-address signal SUB is not received When the result of decision 108 is set to NO, from image storage equipment 9, receiving drawing information is read, it decrypts in the

coding decryption section 8, the original image data is obtained (processing 109), the image data is transmitted to a plotter 6, and the record output of the receiving manuscript is carried out (processing 110). And the receiving drawing information which carried out record termination is eliminated from image storage equipment 9 (processing 111), and this actuation is ended.

[0057] Moreover, by the case where the sub-address signal SUB is received, when the result of decision 108 is set to YES, the receiving drawing information saved to image storage equipment 9 is changed into the DCX information mentioned above (processing 112), and the amount of data of the DCX information is investigated (processing 113).

[0058] In the time of the data length of DCX information being over the predetermined value, when the result of decision 114 is set to YES With the convention data length, divide DCX information (processing 115) and the header information of each division PERT including the "Subject" field mentioned above is created (processing 116). Each division PERT's data are changed into MIME information, this information is created (processing 117), and the distribution electronic mail of each division PERT who consists of header information and this information is transmitted to mail server equipment SM (processing 118). Moreover, the mail address registered into the address translation table corresponding to the sub-address signal SUB is set as the destination address of header information.

[0059] Subsequently, the receiving drawing information and DCX information which carried out transmitting termination are eliminated from image storage equipment 9 (processing 119), and this actuation is ended.

[0060] Moreover, in the time of the data length of DCX information not being over the predetermined value, when the result of decision 114 is set to NO, header information including the "Subject" field mentioned above is created (processing 120), DCX information is changed into MIME information, this information is created (processing 121), and the distribution electronic mail which consists of header information and this information is transmitted to mail server equipment SM (processing 122). Moreover, the mail address registered into the address translation table corresponding to the sub-address signal SUB is set as the destination address of header information.

[0061] Subsequently, the receiving drawing information and DCX information which carried out transmitting termination are eliminated from image storage equipment 9 (processing 123), and this actuation is ended.

[0062] Drawing 9 shows an example of the processing performed when the workstation equipments WS1-WSn receive an electronic mail. In addition, this processing is a part of so-called actuation of MUA (Mail User Agent; e-mail software).

[0063] If an electronic mail is received (the result of decision 201 is YES), an electronic mail will be received and saved (processing 202), the "Subject" field of header information will be investigated (processing 203), and it will investigate whether the received electronic mail is a facsimile message (decision 204).

[0064] The result of the decision 204 instead of a facsimile message performs processing at the time of predetermined electronic mail reception, when set to NO (processing 205), and the received electronic mail ends this actuation.

[0065] Moreover, by the case where the received electronic mail is a facsimile message, when the result of decision 204 is set to YES, it investigates whether it is the divided facsimile message (decision 206).

[0066] By the case where it is not the divided facsimile message, when the result of decision 206 is set to NO, this information on the received electronic mail is changed and saved at the original image data (DCX information) (processing 207), preservation hysteresis information as shown in drawing 10 is created and saved about that saved DCX information (processing 208), and this actuation is ended.

[0067] Moreover, in the case of the facsimile message divided, when the result of decision 206 is set to YES, the electronic mail received by then is investigated and it investigates whether all division PERT is received (decision 209). When the result of decision 209 is set to NO by the case where no division PERT is received, this actuation is ended at that time.

[0068] moreover, by the case where all division PERT is received, when the result of decision 209 is set to YES Arrange each division PERT's electronic mail in a division numerical order (processing 210), and this information on each division PERT's electronic mail is changed into the image data by which origin was divided (processing 211). Each division PERT's image data is connected with a division numerical order, the DCX information on original is restored, that DCX information is saved (processing 212), preservation hysteresis information is created and saved about that saved DCX information (processing 213), and this actuation is ended.

[0069] In addition, preservation hysteresis information is for managing the hysteresis of preservation of a facsimile message, and consists of a file name of the message ID of the electronic mail which carried an e-mail number, the number of partitions, division PERT, or non-dividing PERT, transmitting agency information, and the saved DCX information.

[0070] Therefore, a user can specify and display the drawing information distributed from the network facsimile apparatus FX from a file name based on this preservation hysteresis information.

[0071] In addition, when a facsimile message is received in this way, a user is notified of that and it may be made to carry out a screen display of the saved DCX information to a user.

[0072] Thus, in this example, since DCX information is divided with the predetermined value (for example, 64KB) which is assumed when it comes to the limiting value of the data die length of this information on the electronic mail in mail server equipment and it transmits with two or more electronic mails when transmitting the big DCX information on the amount of data, such a facsimile document can also be appropriately distributed to a destination user.

[0073] Drawing 11 (a) and (b) show other examples of the division mode of DCX information.

[0074] In this case, when it divides in a page boundary, as the data length which united the image data for 3 pages with header information is 128KB, and it is 64KB about this, and it is shown in this drawing (b), header information and the image data (the 1st page and 2nd page) are first settled in one division PERT. Here, since the page [ 3rd ] image data is larger than 64KB, this page [ 3rd ] image data is divided into two by 64 moreKB. Therefore, three division PERT is formed in this case.

[0075] And as this division PERT's data are shown in the "Subject" field in the header information of the electronic mail carried, respectively at drawing 12, the contents of "FAX Message 81035555-1234:F1", "FAX Message 81035555-1234:F2 (1/2)", and "FAX Message 81035555-1234:F2 (1/2)" are arranged.

[0076] "FAX Message" among the information arranged here in the "Subject" field in the header information of the electronic mail which carries the first division PERT It expresses that the contents of this information on an electronic mail are facsimile messages (facsimile document; drawing information). The following "81035555-1234" Expressing the identifier of a facsimile message, following ":F1 / 2" express that it is the 1st thing among the division PERT to whom 2 \*\*\*\*'s of the same identifiers were carried out.

[0077] Moreover, among the information arranged in the "Subject" field in the header information of the electronic mail which carries the 2nd division PERT, ":F2 / 2 (1/2)" is the 2nd things among the division PERT to whom 2 \*\*\*\*'s of the same identifiers were carried out, further, 2 \*\*\*\*'s of this 2nd division PERT are carried out, and he expresses that he is that 1st division PERT.

[0078] Furthermore, among the information arranged in the "Subject" field in the header information of the electronic mail which carries the 3rd division PERT, ":F2 / 2 (2/2)" is the 2nd things among the division PERT to whom 2 \*\*\*\*'s of the same identifiers were carried out, further, 2 \*\*\*\*'s of this 2nd division PERT are carried out, and he expresses that he is that 2nd division PERT.

[0079] Therefore, ":F1 / 2", ":F2/2 (1/2)", and ":F2/2 (2/2)" become a division number showing division sequence in this case among the information arranged in the "Subject" field.

[0080] In this case, when drawing 13 , drawing 14 , and drawing 15 carry out arrival-of-the-mail detection from a public network, they show an example of the processing which the network facsimile apparatus FX performs.

[0081] First, if arrival-of-the-mail detection is carried out (the result of decision 301 is YES), an arrival-of-the-mail response will be carried out (processing 302). The procedure before transmission of a predetermined group 3 facsimile transmission protocol is performed (processing 303). The transmission function then used is set up, the modem rate which performs a modem training procedure and is then used is determined (processing 304), a drawing information receiving procedure is performed, drawing information is received and the received drawing information is accumulated in image storage equipment 9 (processing 305).

[0082] After ending drawing information reception actuation, and performing a transmission defensive hand's predetermined order, (processing 306) and a circuit are restored (processing 307).

[0083] By subsequently, the case where investigate whether the sub-address signal SUB with which a distribution place is then expressed is received (decision 308), and the sub-address signal SUB is not received When the result of decision 308 is set to NO, from image storage equipment 9, receiving drawing information is read, it decrypts in the coding decryption section 8, the original image data is obtained (processing 309), the image data is transmitted to a plotter 6, and the record output of the receiving manuscript is carried out (processing 310). And the receiving drawing information which carried out record termination is eliminated from image storage equipment 9 (processing 311), and this actuation is ended.

[0084] Moreover, by the case where the sub-address signal SUB is received, when the result of decision 308 is set to YES, the receiving drawing information saved to image storage equipment 9 is changed into the DCX information mentioned above (processing

312), and it investigates whether the image data the DCX information of whose is two or more pages is included (decision 313).

[0085] It investigates whether the thing exceeding a convention data length is in the page into which it is a convention data length, and DCX information was divided and (processing 314) divided per page by the case where the image data whose DCX information is two or more pages is included when the result of decision 313 was set to YES (decision 315). By the case where the thing exceeding a convention data length is in the divided page, when the result of decision 315 is set to YES, the DCX information on the page is divided further.

[0086] Subsequently, the header information of each division PERT who includes the "Subject" field mentioned above about each division PERT is created (processing 317), each division PERT's data are changed into MIME information, this information is created (processing 318), and the distribution electronic mail of each division PERT who consists of header information and this information is transmitted to mail server equipment SM (processing 319). Moreover, the mail address registered into the address translation table corresponding to the sub-address signal SUB is set as the destination address of header information.

[0087] Subsequently, the receiving drawing information and DCX information which carried out transmitting termination are eliminated from image storage equipment 9 (processing 320), and this actuation is ended.

[0088] Moreover, by the case where the image data whose DCX information is two or more pages is not included, when the result of decision 313 is set to NO, it investigates whether the amount of data of the DCX information exceeds a convention data length (decision 321).

[0089] In the time of the data length of DCX information being over the predetermined value, when the result of decision 321 is set to YES With the convention data length, divide DCX information (processing 322) and the header information of each division PERT including the "Subject" field mentioned above is created (processing 323). Each division PERT's data are changed into MIME information, this information is created (processing 324), and the distribution electronic mail of each division PERT who consists of header information and this information is transmitted to mail server equipment SM (processing 325). Moreover, the mail address registered into the address translation table corresponding to the sub-address signal SUB is set as the destination address of header information.

[0090] Subsequently, the receiving drawing information and DCX information which carried out transmitting termination are eliminated from image storage equipment 9 (processing 326), and this actuation is ended.

[0091] Moreover, in the time of the data length of DCX information not being over the predetermined value, when the result of decision 321 is set to NO, header information including the "Subject" field mentioned above is created (processing 327), DCX information is changed into MIME information, this information is created (processing 328), and the distribution electronic mail which consists of header information and this information is transmitted to mail server equipment SM (processing 329). Moreover, the mail address registered into the address translation table corresponding to the sub-address signal SUB is set as the destination address of header information.

[0092] Subsequently, the receiving drawing information and DCX information which

carried out transmitting termination are eliminated from image storage equipment 9 (processing 330), and this actuation is ended.

[0093] In addition, since the processing performed in this case when the workstation equipments WS1-WSn receive an electronic mail becomes the same thing as drawing 9, that explanation is omitted.

[0094] Thus, in this example, since it is the predetermined value (for example, 64KB) which is assumed when it comes to the limiting value of the data die length of this information on the electronic mail in mail server equipment, and DCX information is divided per page and it transmits with two or more electronic mails when transmitting the big DCX information on the amount of data, such a facsimile document can also be appropriately distributed to a destination user.

[0095] Drawing 16 (a) and (b) show other examples to the pan of the division mode of DCX information.

[0096] In this case, the data length which united the image data for 3 pages with header information is 128KB, and it is 64KB about this, and if it divides in a page boundary, as shown in this drawing (b), first, header information and the image data (the 1st page and 2nd page) will be settled in one division PERT, and the page [ 3rd ] image data will become another division PERT's thing.

[0097] Then, in this case, in order to enable it to display each division PERT independently, the header information of the DCX information only showing the image data contained in that division PERT is created and added to each division PERT.

[0098] However, the page [ 3rd ] image data in this case divides this page [ 3rd ] image data including the header information newly added that becomes larger than 64KB into two by 64 moreKB. Therefore, three division PERT is formed in this case.

[0099] moreover, each data of the division PERT in this case -- the contents of the "Subject" field in the header information of a \*\*\*\* electronic mail can apply the thing of the same contents as drawing 12.

[0100] In this case, when drawing 17 , drawing 18 , and drawing 19 carry out arrival-of-the-mail detection from a public network, they show an example of the processing which the network facsimile apparatus FX performs.

[0101] First, if arrival-of-the-mail detection is carried out (the result of decision 401 is YES), an arrival-of-the-mail response will be carried out (processing 402). The procedure before transmission of a predetermined group 3 facsimile transmission protocol is performed (processing 403). The transmission function then used is set up, the modem rate which performs a modem training procedure and is then used is determined (processing 404), a drawing information receiving procedure is performed, drawing information is received and the received drawing information is accumulated in image storage equipment 9 (processing 405).

[0102] After ending drawing information reception actuation, and performing a transmission defensive hand's predetermined order, (processing 4306) and a circuit are restored (processing 407).

[0103] By subsequently, the case where investigate whether the sub-address signal SUB with which a distribution place is then expressed is received (decision 408), and the sub-address signal SUB is not received When the result of decision 408 is set to NO, from image storage equipment 9, receiving drawing information is read, it decrypts in the coding decryption section 8, the original image data is obtained (processing 409), the

image data is transmitted to a plotter 6, and the record output of the receiving manuscript is carried out (processing 410). And the receiving drawing information which carried out record termination is eliminated from image storage equipment 9 (processing 411), and this actuation is ended.

[0104] Moreover, by the case where the sub-address signal SUB is received, when the result of decision 408 is set to YES, the receiving drawing information saved to image storage equipment 9 is changed into the DCX information mentioned above (processing 412), and it investigates whether the image data the DCX information of whose is two or more pages is included (decision 413).

[0105] It investigates whether the thing exceeding a convention data length is in the page into which it is a convention data length, and DCX information was divided and (processing 414) divided per page by the case where the image data whose DCX information is two or more pages is included when the result of decision 413 was set to YES (decision 415). By the case where the thing exceeding a convention data length is in the divided page, when the result of decision 415 is set to YES, the DCX information on the page is divided further.

[0106] Subsequently, the header information of each division PERT including the "Subject" field which newly created, added and (processing 417) mentioned the header information of DCX information above about each division PERT creates (processing 418), each division PERT's data are changed into MIME information, this information creates (processing 419), and the distribution electronic mail of each division PERT who consists of header information and this information transmits to mail server equipment SM (processing 420). Moreover, the mail address registered into the address translation table corresponding to the sub-address signal SUB is set as the destination address of header information.

[0107] Subsequently, the receiving drawing information and DCX information which carried out transmitting termination are eliminated from image storage equipment 9 (processing 421), and this actuation is ended.

[0108] Moreover, by the case where the image data whose DCX information is two or more pages is not included, when the result of decision 413 is set to NO, it investigates whether the amount of data of the DCX information exceeds a convention data length (decision 422).

[0109] In the time of the data length of DCX information being over the predetermined value, when the result of decision 422 is set to YES With the convention data length, divide DCX information (processing 423) and the header information of each division PERT including the "Subject" field mentioned above is created (processing 424). Each division PERT's data are changed into MIME information, this information is created (processing 425), and the distribution electronic mail of each division PERT who consists of header information and this information is transmitted to mail server equipment SM (processing 426). Moreover, the mail address registered into the address translation table corresponding to the sub-address signal SUB is set as the destination address of header information.

[0110] Subsequently, the receiving drawing information and DCX information which carried out transmitting termination are eliminated from image storage equipment 9 (processing 427), and this actuation is ended.

[0111] Moreover, in the time of the data length of DCX information not being over the

predetermined value, when the result of decision 422 is set to NO, header information including the "Subject" field mentioned above is created (processing 428), DCX information is changed into MIME information, this information is created (processing 429), and the distribution electronic mail which consists of header information and this information is transmitted to mail server equipment SM (processing 430). Moreover, the mail address registered into the address translation table corresponding to the sub-address signal SUB is set as the destination address of header information.

[0112] Subsequently, the receiving drawing information and DCX information which carried out transmitting termination are eliminated from image storage equipment 9 (processing 431), and this actuation is ended.

[0113] In addition, since the processing performed in this case when the workstation equipments WS1-WSn receive an electronic mail becomes the same thing as drawing 9, that explanation is omitted.

[0114] thus, when transmitting the big DCX information on the amount of data in this example With the predetermined value (for example, 64KB) which is assumed when it comes to the limiting value of the data die length of this information on the electronic mail in mail server equipment And since new header information is added and it transmits with two or more electronic mails about each division PERT while dividing DCX information per page, such a facsimile document can also be appropriately distributed to a destination user.

[0115] In addition, in the example mentioned above, although the case where DCX information was applied was explained as image data which transmits to workstation equipment, when applying the image data of the other data format, this invention can be applied similarly. When the format of image data that the header information showing the attribute of the image data etc. is added to the head of each page is applied so that it may be shown in that case (a), for example, drawing 20 , while being a convention data length as shown in this drawing (b) and dividing per page, when the data length for 1 page exceeds default value, it can be further made a division mode which divides the page.

[0116] Moreover, the convention data length applied in order to divide image data is not restricted to 64KB of the example mentioned above.

#### [Brief Description of the Drawings]

[Drawing 1] The block diagram having shown the network system concerning one example of this invention.

[Drawing 2] The block diagram having shown the example of a configuration of the network facsimile apparatus FX.

[Drawing 3] The schematic diagram having shown an example of an address translation table.

[Drawing 4] The schematic diagram having shown an example of DCX information.

[Drawing 5] The schematic diagram for explaining an example of the division mode of image data.

[Drawing 6] The schematic diagram for explaining an example of the contents of the "Subject" field in the header information of an electronic mail.

[Drawing 7] The flow chart which showed a part of example of the processing which the network facsimile apparatus FX performs when arrival-of-the-mail detection is carried

out from a public network.

[Drawing 8] The flow chart which showed the remaining part of an example of the processing which the network facsimile apparatus FX performs when arrival-of-the-mail detection is carried out from a public network.

[Drawing 9] The flow chart which showed an example of the processing performed when the workstation equipments WS1-WSn receive an electronic mail.

[Drawing 10] The schematic diagram having shown an example of preservation hysteresis information.

[Drawing 11] The schematic diagram for explaining other examples of the division mode of image data.

[Drawing 12] The schematic diagram for explaining other examples of the contents of the "Subject" field in the header information of an electronic mail.

[Drawing 13] The flow chart which showed a part of other examples of the processing which the network facsimile apparatus FX performs when arrival-of-the-mail detection is carried out from a public network.

[Drawing 14] The flow chart which showed other parts of other examples of the processing which the network facsimile apparatus FX performs when arrival-of-the-mail detection is carried out from a public network.

[Drawing 15] The flow chart which showed the remaining part of other examples of the processing which the network facsimile apparatus FX performs when arrival-of-the-mail detection is carried out from a public network.

[Drawing 16] The schematic diagram for explaining other examples to the pan of the division mode of image data.

[Drawing 17] The flow chart which showed a part of example of further others of the processing which the network facsimile apparatus FX performs when arrival-of-the-mail detection is carried out from a public network.

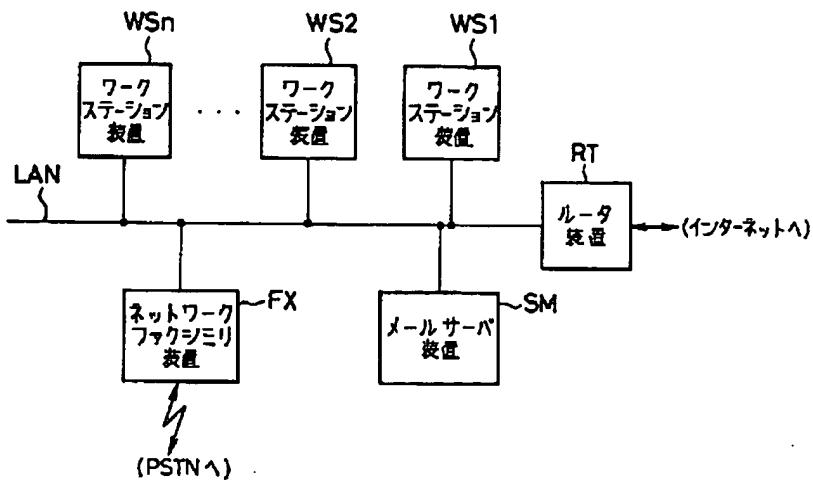
[Drawing 18] The flow chart which showed other parts of the example of further others of the processing which the network facsimile apparatus FX performs when arrival-of-the-mail detection is carried out from a public network.

[Drawing 19] The flow chart which showed the remaining part of other examples of the processing which the network facsimile apparatus FX performs when arrival-of-the-mail detection is carried out from a public network.

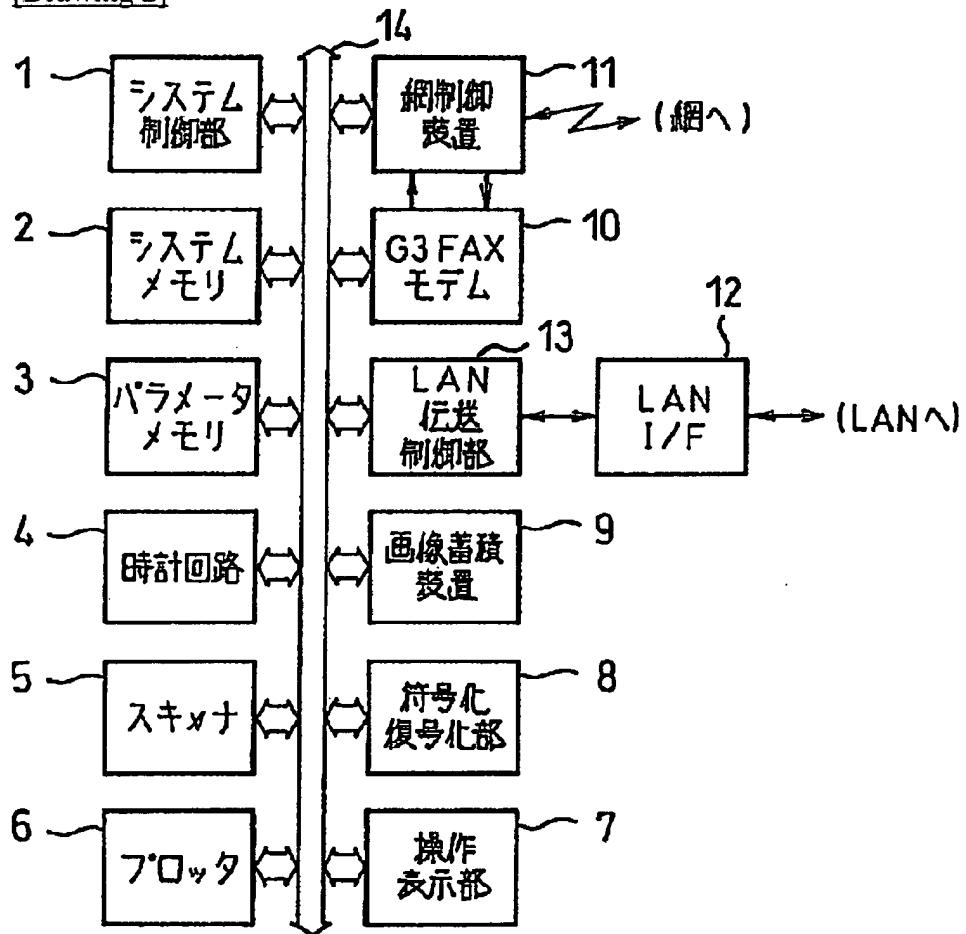
[Drawing 20] The schematic diagram for explaining another example of the division mode of image data.

[Drawing 6]

[Drawing 1]



[Drawing 2]



[Drawing 4]

ヘッダ情報 (DCX)
画像データ#1 (PCX)
画像データ#2 (PCX)
:
画像データ#m (PCX)

[Drawing 10]

メール番号
分割数 (m)
メッセージID#1
...
メッセージID#m
送信元情報
保存ファイル名

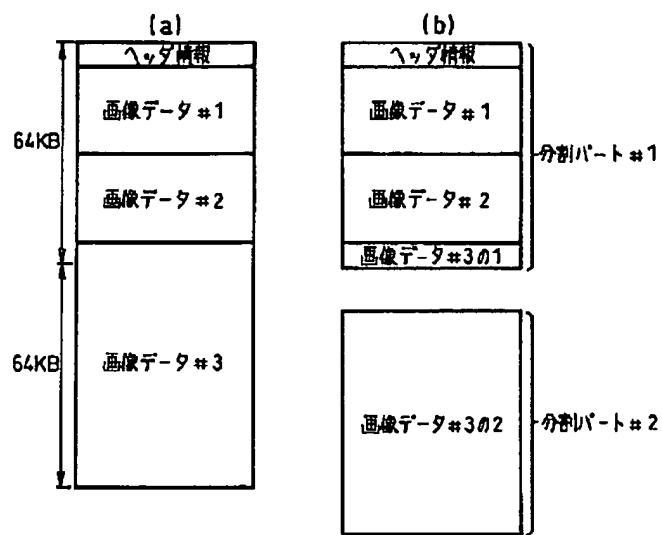
[Drawing 12]

分割パート#1	Fax Message 81035555-1234:F1/2
分割パート#2	Fax Message 81035555-1234:F2/2(1/2)
分割パート#3	Fax Message 81035555-1234:F2/2(2/2)

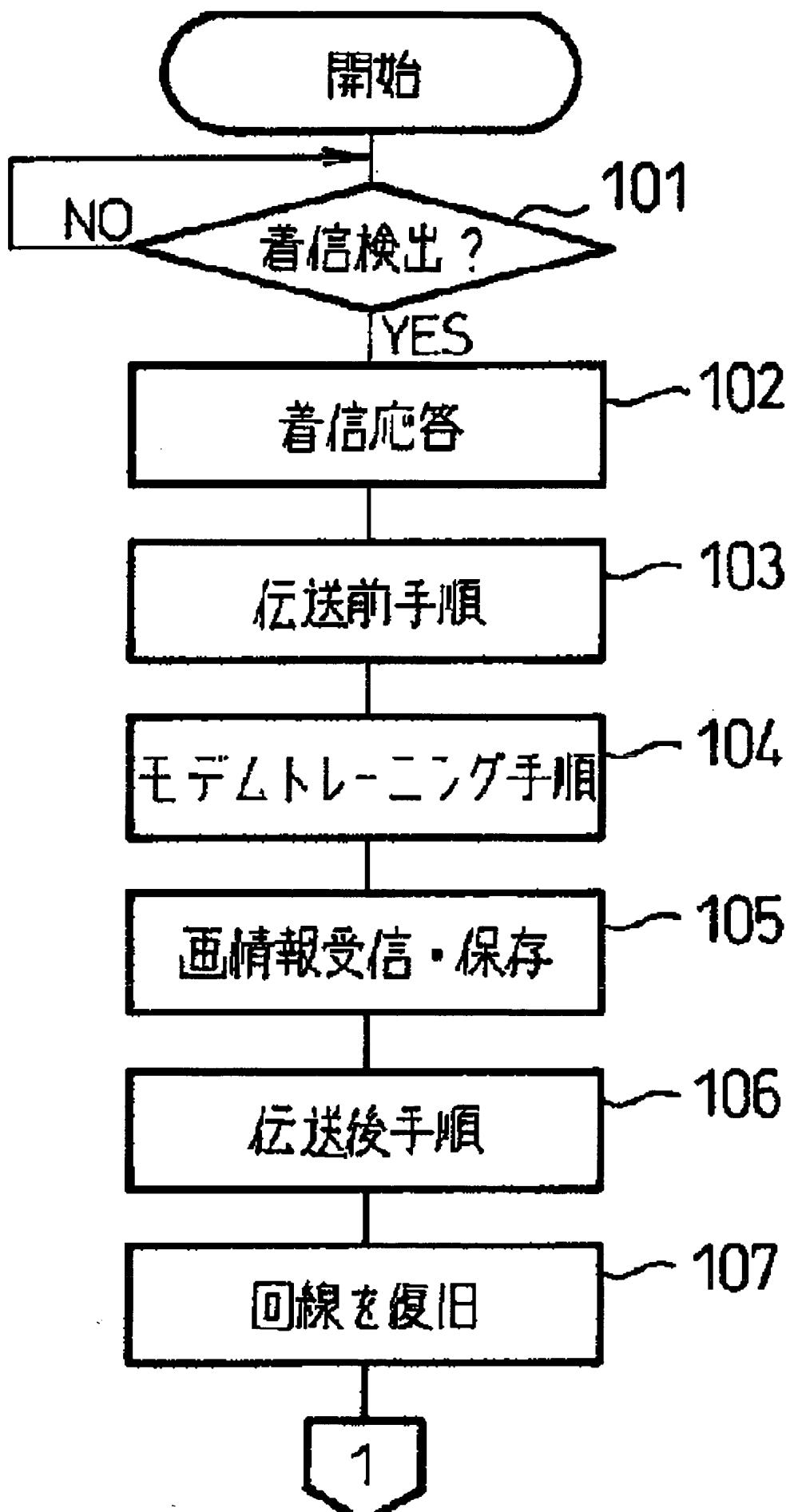
[Drawing 3]

ID	サブアドレス	メールアドレス
1	0001	user1@xxx.yyy.co.jp
2	0002	user2@xxx.yyy.co.jp
3	0003	group1@xxx.yyy.co.jp
4	0004	user3@xxx.yyy.co.jp
5	0005	user4@xxx.yyy.co.jp
6	0006	group2@xxx.yyy.co.jp

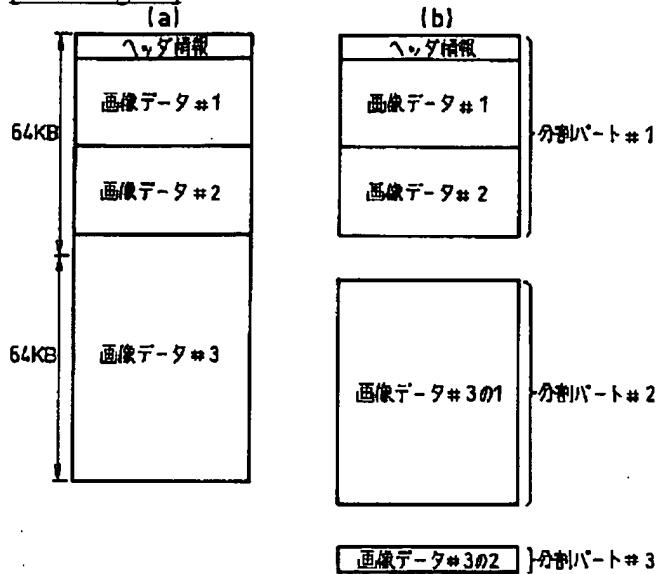
[Drawing 5]



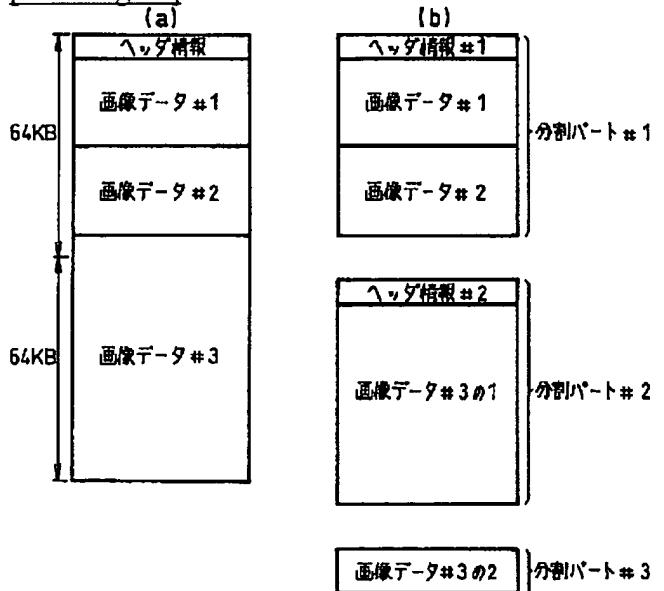
[Drawing 7]



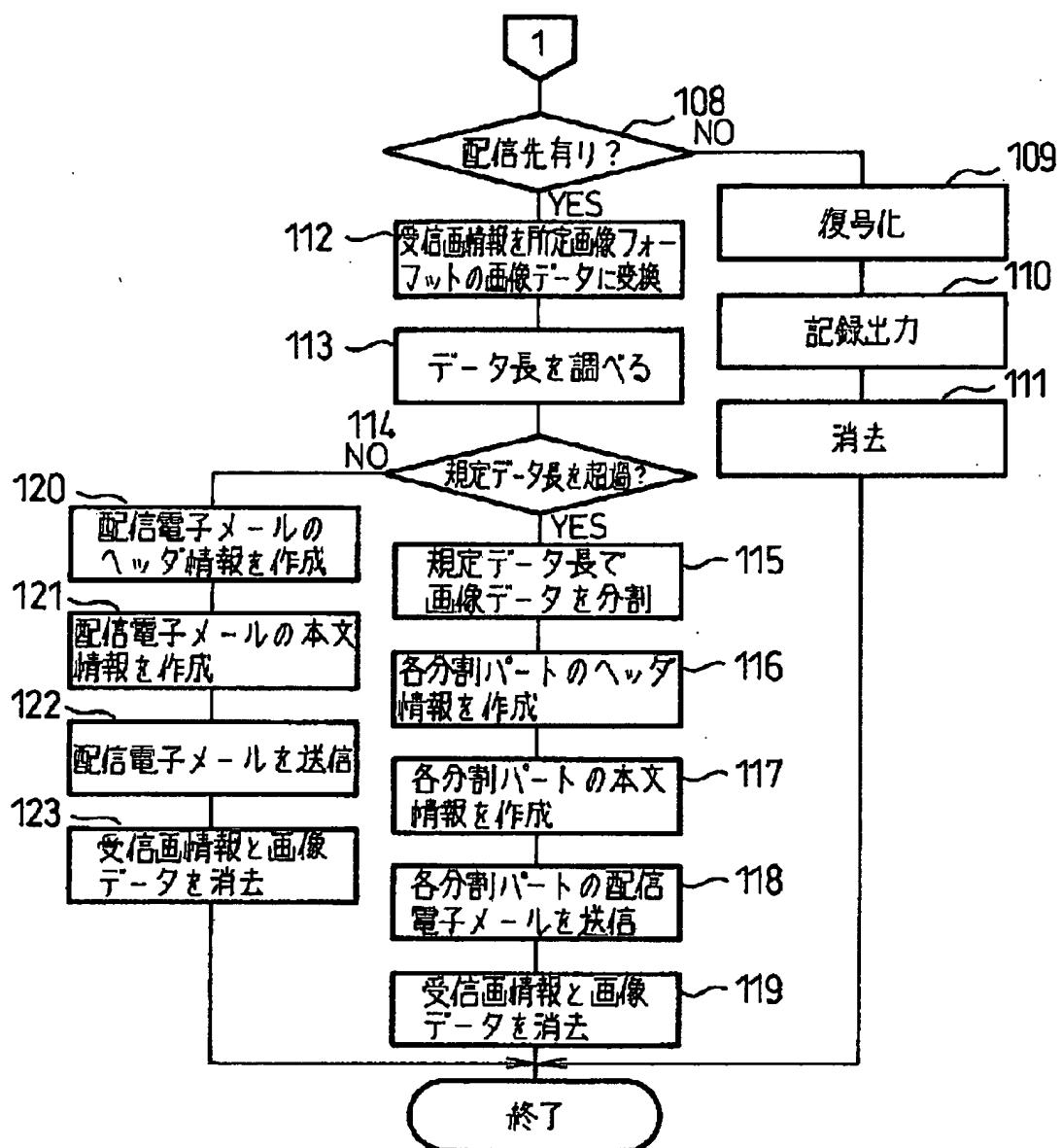
[Drawing 11]



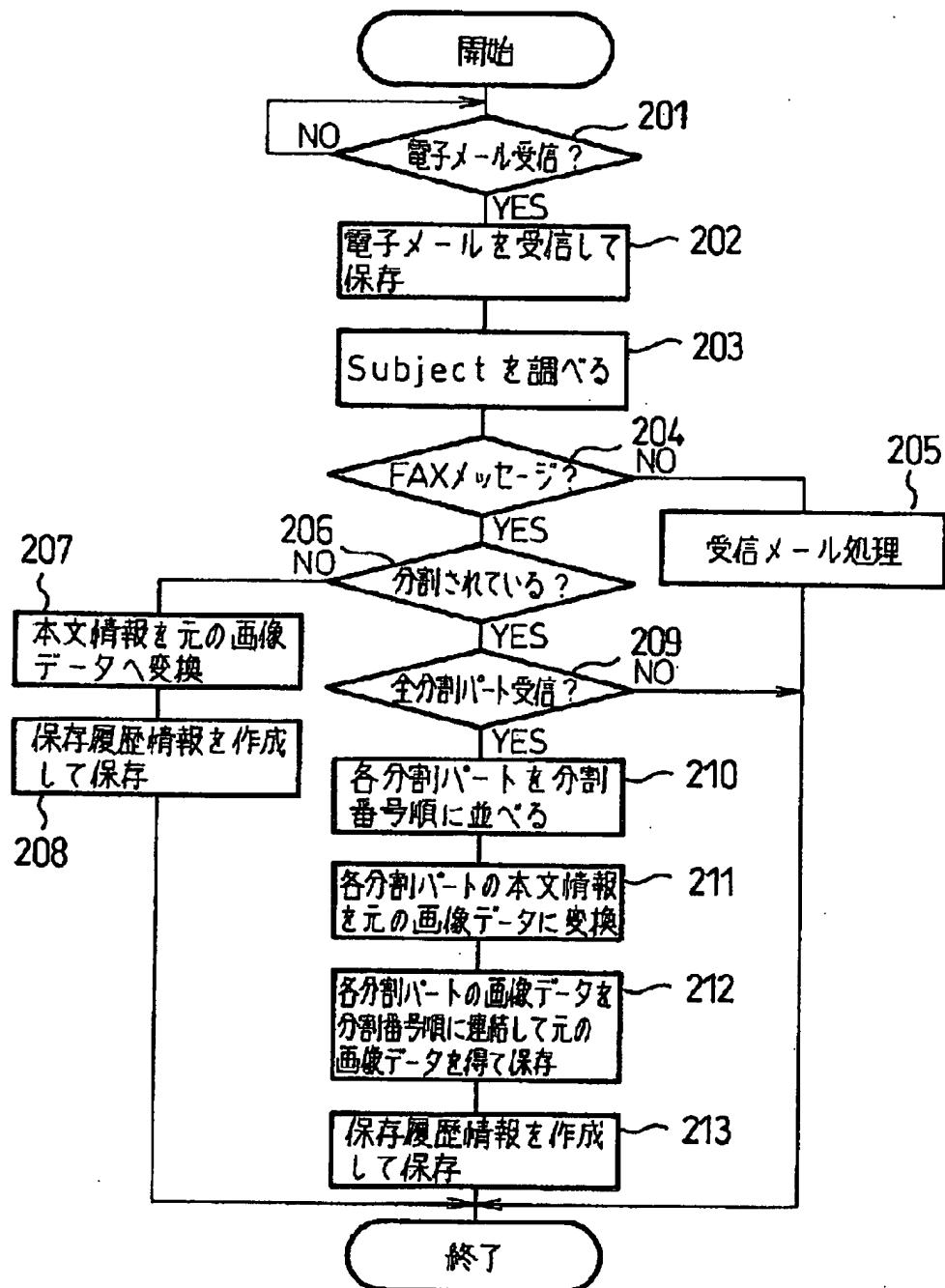
[Drawing 16]



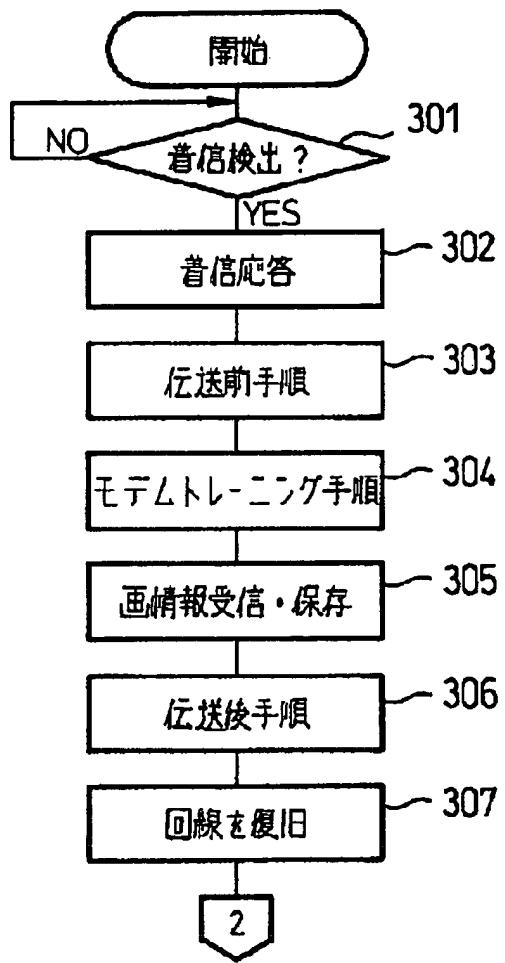
[Drawing 8]



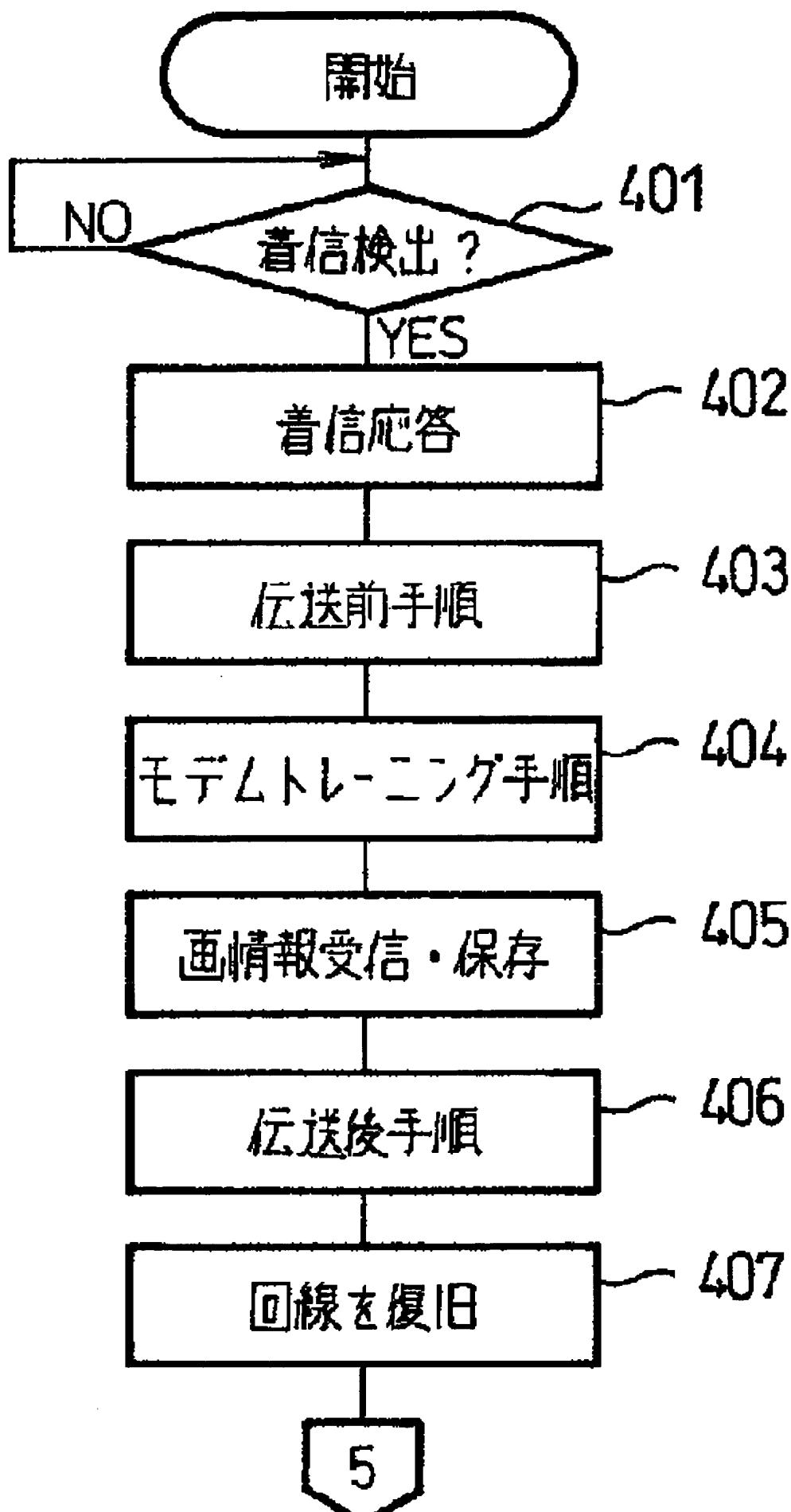
[Drawing 9]



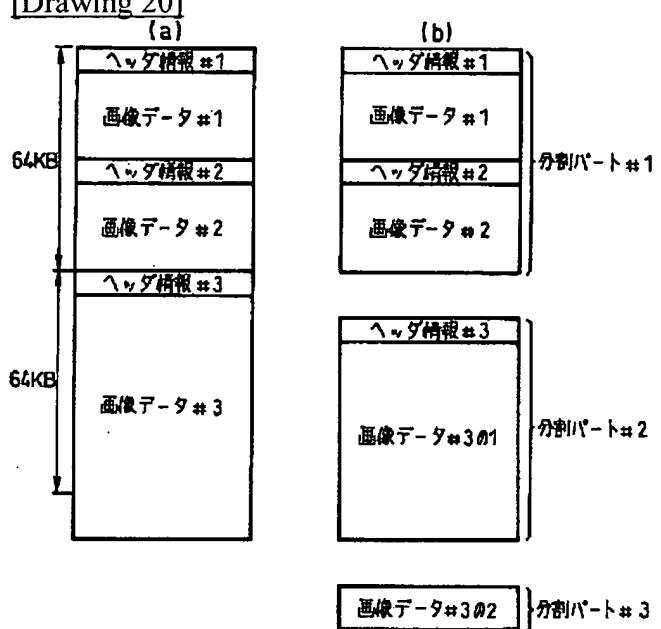
[Drawing 13]



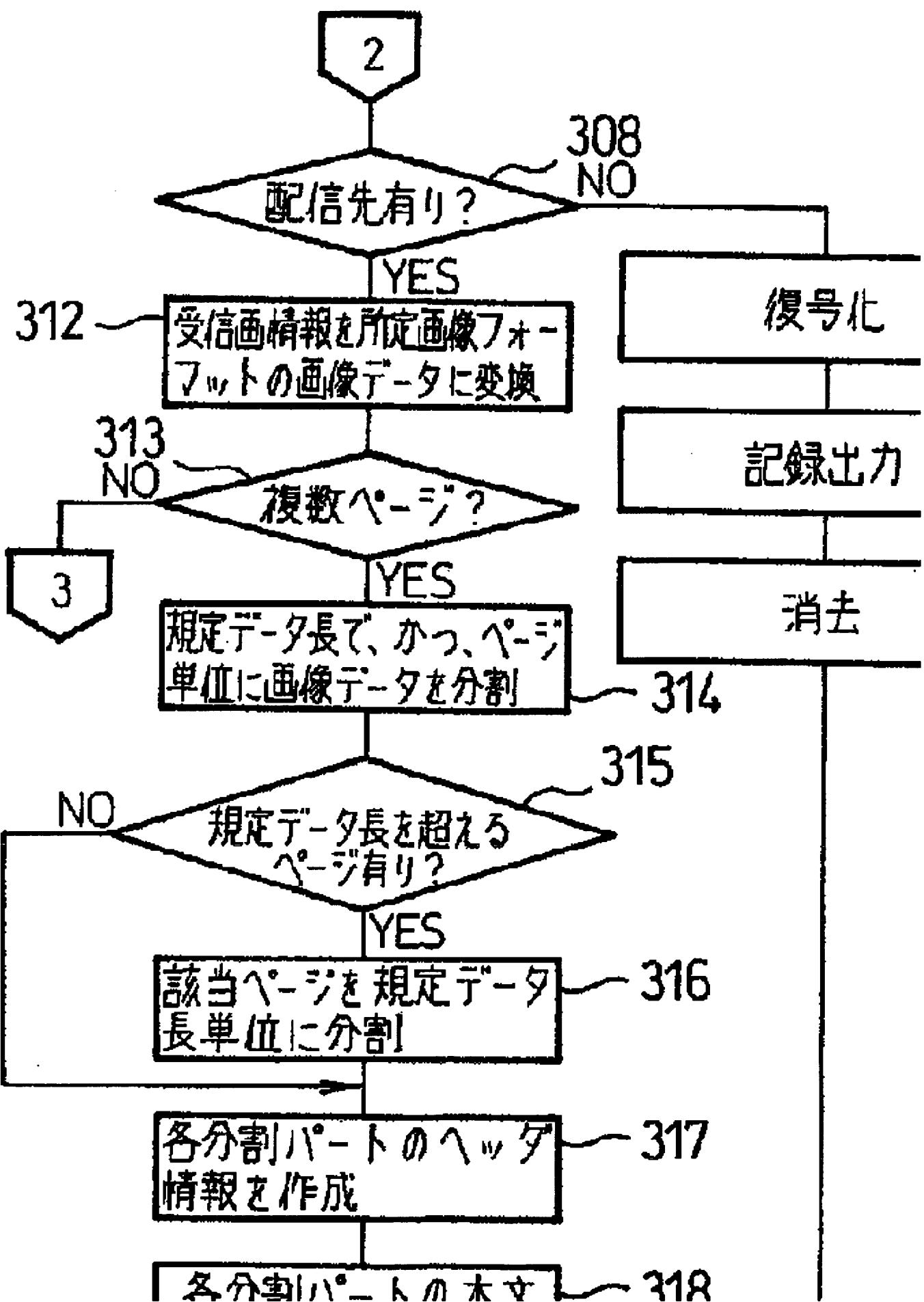
[Drawing 17]



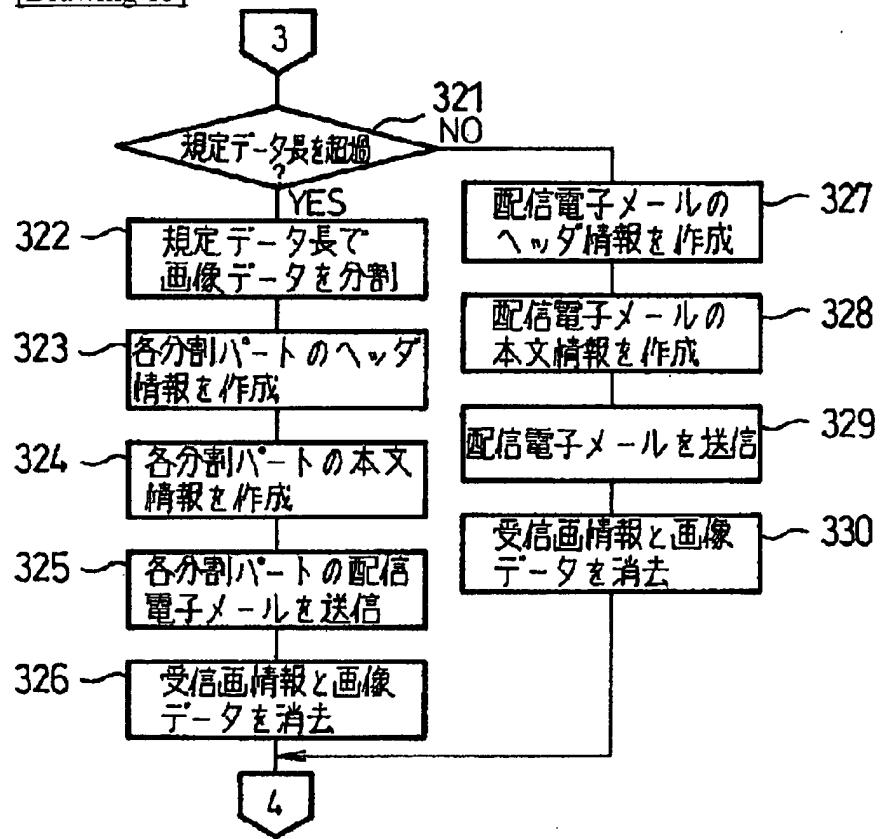
[Drawing 20]



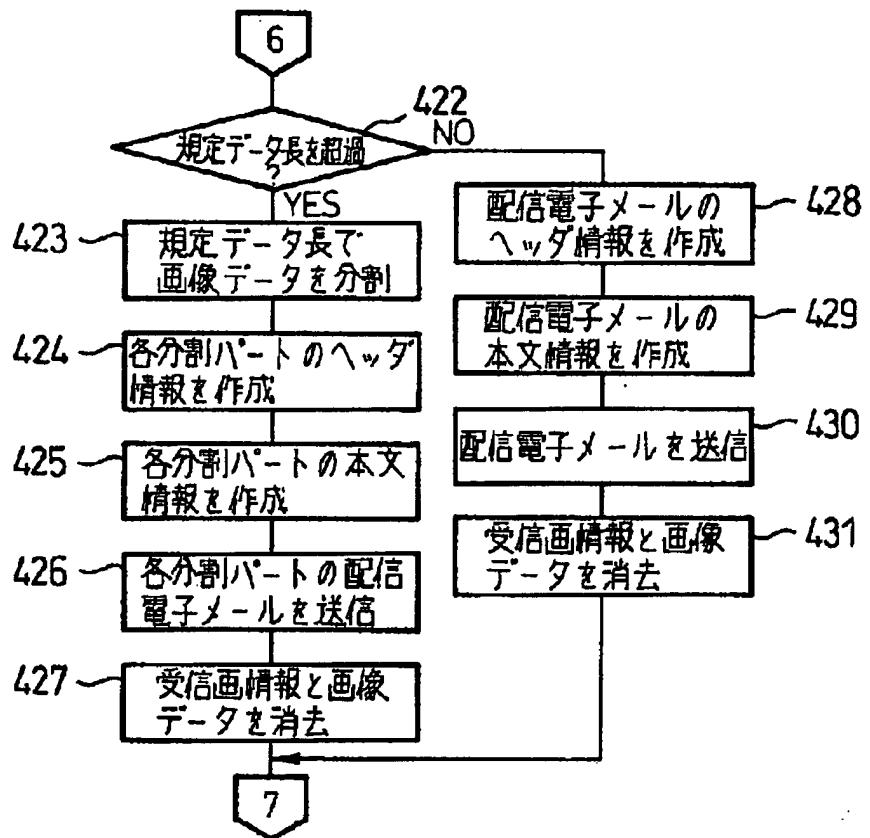
[Drawing 14]



[Drawing 15]



[Drawing 19]



[Drawing 18]

